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*The*  
**Railroads of Mexico**

*By*  
**FRED WILBUR POWELL, PH. D.**



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## CONTENTS

CHAPTER	PAGE
I. Introduction . . . . .	v
PART I	
II. The Diaz Policy of Encouragement . . . . .	1
III. The Permanent Way and Structures . . . . .	7
IV. The Equipment Situation . . . . .	19
V. Operation Under Difficulties . . . . .	25
VI. Service . . . . .	43
VII. The Claims of Investors . . . . .	63
VIII. The Outlook . . . . .	69
PART II	
IX. Mexican Topography . . . . .	83
X. Before the Railroads . . . . .	91
XI. Railroads Introduced . . . . .	99
XII. The Original Diaz Policy . . . . .	109
XIII. Early American Attitude Toward Mexican Railroad Investments . . . . .	115
XIV. Influx of American Capital . . . . .	123
XV. Mexican Central . . . . .	127
XVI. Mexican National . . . . .	133
XVII. Mexican International . . . . .	137
XVIII. Interoceanic . . . . .	139
XIX. Mexican Southern . . . . .	145
XX. Tehuantepec . . . . .	149
XXI. Tehuantepec Connections, North and South . . . . .	153
XXII. Western Sierra Madre Projects . . . . .	157
XXIII. Southern Pacific . . . . .	161



# CONTENTS

## PART III

CHAPTER	PAGE
xxv. Relations With the Government . . .	167
xxvi. Results, Political and Economic . . .	189
Bibliography . . . . .	197
Index . . . . .	223

# INTRODUCTION

## CHAPTER I

**M**EXICO'S centennial year, 1910, marked the end of normal conditions throughout the country. Porfirio Diaz, who had brought order out of chaos, was an old man. The voices of discontent were no longer quiet, and the world was asking with renewed interest the question, "After Diaz, what?" Hardly had the great anniversary celebration been concluded when insurrection broke out in the north, and a reign of disorder set in which has continued with varying degrees of violence until the present.

When the power that maintains public order breaks down, property interests suffer; and railroads are peculiarly liable to loss and destruction. The regularly constituted government avails itself of its right to take over the lines for military use; equipment is seized for the transportation of troops, munitions, and supplies; and the service essential to the maintenance of commerce and industry is disorganized if not brought to a complete standstill. Revenues fall off, outlays for construction and maintenance are curtailed, and the return to investors is suspended.

More serious still is the effect of the activities of the forces of rebellion and disorder. Bridges are destroyed and tracks are torn up to prevent the movement of trains; equipment is seized and buildings are burned. All varieties of railroad property are destroyed, sometimes purely for the sake of destruction. Employees are killed, driven from their posts, and

## INTRODUCTION

impressed into military service. Industrial operations are suspended, and the flow of traffic is stopped. Thus the great organism which is essential to economic development and national stability becomes incapable of function if not wholly paralyzed.

This in general terms is what has occurred in Mexico within the last ten years. To present an orderly statement of the progress of the disaster is impossible under existing conditions; for the facilities for obtaining information have broken down. To measure it in terms of statistics is also impossible; for while fragmentary data have been assembled, they have not always been published, and publication has been long delayed. Reports, official and unofficial, are in hopeless disagreement. Under the circumstances the most that can be done is to set forth the results of a study of all available information which will contribute to the evidence necessary to an understanding of the situation and to a consideration of its remedy.

Part I of this study is mainly concerned with the present and with the period following the Diaz régime. It is addressed to those who already know something of the historical aspects of transportation in Mexico; its purpose being to set forth some of the facts upon which may be based an answer to the question "What is the matter with Mexico to-day?"

There is an abundance of fragmentary materials on the transportation history of Mexico. Much of it is in English; for most of the financing and construction and, until recent years, much of the operation of Mexican railroads have been in American or British hands. No attempt has yet been made, however, to assemble those materials and to present the result in a detailed, systematic treatise. That is a task for the future. Yet it is possible to give a brief summary account of

## INTRODUCTION

the development of that great system of land transportation which so rapidly brought Mexico out of a long period of economic stagnation; and that is the purpose of Part II. In Part III are presented certain background considerations and conclusions. The bibliography, while far from complete, is perhaps the most extensive list yet to appear.



## PART I



## CHAPTER II

### THE DIAZ POLICY OF ENCOURAGEMENT

**M**EXICAN railroad development was the result of foreign capital and enterprise, attracted by national franchises or "concessions" and encouraged by subsidies. This policy was adopted by President Diaz in 1880 after the failure of an attempt to promote railroad building by Mexicans under state concessions. It was continued by his successor, Manuel Gonzales, during the years 1880-1884, and taken up with renewed zeal at the beginning of the long Diaz régime which continued from 1884 to 1911.

In 1876 when Diaz first assumed control, the Mexican railway, British built, was in operation between the Capital City and the port of Vera Cruz. There was also a small number of lines under state concessions, but the total extent of track in the country was only 416 miles. In 1880, at the end of Diaz' first term, the number of miles had increased to 674. From 1884 to 1910 the system developed from 3682 to 15,360 miles, of which 3025 miles represented small local lines constructed under state concessions.<sup>1</sup>

The result of the Diaz policy in terms of foreign investment can only be stated in general terms and for years for which estimates are available. A careful estimate of American capital in Mexico was made in 1902 by United States Consul Andrew D. Barlow:

"Five hundred million dollars gold is in round figures the American capital invested in Mexico. . . . This amount has

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<sup>1</sup> Gonzales Roa, "El problema ferrocarrilero," 30 (1915).



## THE RAILROADS OF MEXICO

practically all been invested in the past quarter of a century, and about one-half of it has been invested within the past five years. . . . More American capital is invested in the railroads of Mexico than in any other single line—about 70 per cent of the total. In this line American capital dominates. All of the important railroads in Mexico (except the Interoceanic, . . . the Mexican Railway, . . . and the National Tehuantepec Railway . . . ), are owned by American capital. . . .

“Since the construction of the Mexican Central by Americans, some twenty years ago, United States capital has always been the strongest factor in Mexican railroads, and at present it constitutes about 80 per cent of the total capital invested in railroads in this country.”<sup>2</sup>

In 1907 it was estimated by the United States Bureau of Manufactures that “American investments in Mexico aggregate probably more than \$750,000,000.” By use of Barlow’s total of 1902 as a base, the new figure was arrived at by estimating that “the increase since that time has probably averaged over 50 millions annually.” “About half of this,” it was declared, “has been invested since 1898. About two-thirds of this total is invested in railroads. Of the total investments in Mexican railways 80 per cent belongs to Americans.”<sup>3</sup>

A third estimate from an official source was that made in 1912 by Marion Letcher, United States Consul at Chihuahua. This gave the total of American investments as \$1,057,770,000 and the total of British investments as \$321,303,000. The capital invested in railroad shares was declared to be: American \$235,464,000, British \$81,238,000, and Mexican \$125,-

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<sup>2</sup> U. S. Department of State, Commercial relations, 1902-3: I, 433-5.

<sup>3</sup> U. S. Department of Commerce and Labor, Commercial America, 1907:44.

## THE DIAZ POLICY OF ENCOURAGEMENT

440,000; in railroad bonds: American \$408,926,000, British \$87,680,000, and Mexican \$12,275,000.<sup>4</sup>

A New York financial journal in 1913 presented estimates of foreign capital in Mexico which it had obtained from well-informed sources. Estimates of American investments ranged from \$600,000,000 to \$1,000,000,000. One gave the source of foreign capital as follows: United States, \$1,000,000,000; Great Britain, \$320,000,000; France, \$143,000,000; other foreign countries, \$118,000,000. These figures substantially agree with those prepared about the same time by a British financial writer who was familiar with Mexican conditions: United States, £211,554,000; Great Britain, £64,260,720; France, £28,698,000.<sup>5</sup>

These estimates measure roughly the stake of foreigners in Mexico. They show the grounds for concern in the United States, particularly, as to the condition and prospects of Mexican railroads. But great as is the interest of foreigners, the interest of the Mexican people is greater. With them it is not a question of possible loss of invested surplus; their concern is the prevention of the demoralization of their whole economic system. Their slogan, "Mexico for the Mexicans", need not carry with it any menace to the interests of foreign investors as such; for no intelligent or responsible Mexican can hope to see his country prosper without foreign capital.

This fact was recognized by Diaz; and while he pursued a policy of encouragement, he also took good care that the terms of all concessions to foreigners should be such as to protect the present and future interests of the country. He furthered development, but not exploitation. When in 1899 he was in-

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<sup>4</sup> U. S. "Consular Reports," July 18, 1912:816.

<sup>5</sup> "New York Journal of Commerce," February 15, 1913; Martin, Investments in Mexico, "Financial Review of Reviews," no. 89:21 (1913).

## THE RAILROADS OF MEXICO

duced by Limantour to adopt the more restrictive policy embodied in the general railroad law, it was because he had been led to believe that the time had come to build and operate railroads as parts of a comprehensive system, serving all sections of the country to the mutual benefit of the people and the investors. When during 1902-9 Limantour put through his plan for national control of the bulk of the railroad mileage of the country through share ownership, it was not because of hostility to foreign capital as such. It was because of the professed fear that one or the other of the two great trunk lines would pass into the control of an American system and be operated in a spirit of exploitation within the limits of their underlying concessions.

Limantour, himself a man of foreign blood, favored the investment of foreign capital in Mexico, although he preferred to have it come from Europe so as to prevent the financial domination of Mexico by the capitalists of the United States. That his anti-American attitude was not shared by his chief is indicated by the fact that Diaz himself was induced in 1905 to favor the construction of the Southern Pacific line from Guaymas to a connection with the City of Mexico at Guadalajara.<sup>6</sup>

Limantour's nationalization plan involved the formation of a new corporation, the National Railways of Mexico, in which the government should own a majority of the shares. This plan was carried out in 1909; and in 1910 the new corporation controlled the following standard lines:

Mexican Central Railway; American, British, and German capital.

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<sup>6</sup> Diaz Dufoo, "Limantour," 129-37 (1910); Gonzales Roa, 20-9, 36-40 (1915). The latter criticises the restrictive policy of Limantour as one which retarded the development of railroads, a result which, he says, "the Constitutional Government of Mr. Madero attempted to remedy."—p. 40.

## THE DIAZ POLICY OF ENCOURAGEMENT

National Railroad of Mexico; American, British, and Mexican capital.

Mexican International Railroad; American capital.

Pan-American Railroad; American capital.

Vera Cruz and Isthmus Railroad; American and Mexican capital.

It also controlled the following narrow-gauge lines:

National Railroad of Mexico, Morelia Branch; American, British, and German capital.

Hidalgo and Northeastern Railroad; Mexican capital.

Michoacan and Pacific Railway; British capital.

Interoceanic Railway; British capital.

Mexican Southern Railway; British capital.

The system included 6212 miles of standard-gauge line and 1545 miles of narrow-gauge line. With yards and sidings the total trackage was 8392 miles. It touched the Texas frontier at Juarez, Piedras Negras, Nuevo Laredo, and Matamoros; the Gulf coast at Tampico and Vera Cruz; the Pacific coast at Manzanillo; and the Guatemala frontier at Suchiate, on the river of that name.<sup>7</sup>

At the same time the government controlled the Tehuantepec National railway through a partnership agreement with S. Pearson and Son, Ltd., entered into in 1902. This standard-gauge line of 220 miles, extending from Salina Cruz on the Pacific to Puerto Mexico on the Gulf, served to connect the Pan-American railroad and the Vera Cruz and Isthmus railroad.

Among the larger independent railroads were the following:

Southern Pacific Railroad of Mexico; American capital.

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<sup>7</sup> The Texas-Mexican, Laredo to Corpus Christi, 162 miles, is here omitted, since it is wholly in the state of Texas.

## THE RAILROADS OF MEXICO

Mexico North Western Railway; British and Canadian capital.

Mexican Railway; British capital.

Kansas City, Mexico, and Orient Railway; American, British, and Dutch capital.

Mexican Northern Railway; American capital.

Nacozari Railway; American capital.

Parral and Durango Railroad; American capital. Part narrow gauge.

United Railways of Yucatan; Mexican capital. Mostly narrow gauge.

Coahuila and Zacatecas Railway; British capital. Narrow gauge.

The total extension of all such lines, excluding those built under state concessions, was 3883 miles. The national government exercised direct control over more than half of the railroad mileage of the country and over two-thirds of the lines of primary importance. This was the situation at the outbreak of the long period of revolution and banditry.\*

\* Mexican year book, 1911:168.

### CHAPTER III

#### THE PERMANENT WAY AND STRUCTURES

**A**S set forth in the general railroad law of 1899 or in subsequent declarations, it was the policy of the Diaz government to favor the construction of railroads projected along eight general routes, all of national importance. Before the end of the Diaz régime three of these routes had been opened, —by the Vera Cruz and Isthmus, the Pan-American, and the Mexican Pacific extension of the old Mexican Central; and plans for the development of the other routes were in various stages of progress. These routes were:

- From the city of Chihuahua to a port in Sonora or northern Sinaloa,
- From the City of Mexico to a port in Guerrero,
- From Guadalajara to Mazatlan,
- From the Tehuantepec line to Campeche, and
- From the City of Mexico to Tampico.

In the years since 1910 railroad construction has been attended with great difficulty, due to military operations, activities of bandits, shortage of materials, and lack of funds. Indeed, after 1914 the new mileage was negligible; and it was not until 1919 that really serious efforts at construction were resumed. Nevertheless, taken as a whole, the record of construction during the last decade is not unimpressive; and some of the plans for additional construction are worthy of attention.

Those plans contemplate the completion of the parts of the Diaz program that are unfinished and the construction of new

## THE RAILROADS OF MEXICO

lines which are designed either to link up isolated parts of the national system, to open up new territory, or to facilitate the movement of military forces in the restoration and maintenance of order.

Railroad communication between the central plateau of northern Mexico and the west coast is still barred by the western Sierra Madre range, despite the efforts of several groups of promoters extending over a period of forty years. In the early eighties three lines were projected through that range; but of these the Texas, Topolobampo, and Pacific had only a paper existence, and the Sinaloa and Durango is represented to-day only by the unimportant line from the port of Altata to Culiacan, now known as the Occidental railway. The Mexican International was projected as a line to the port of Mazatlan; but it reached no further than Tepehuanes, where work was stopped in 1902.

In the meantime two other projects had been launched; the Rio Grande, Sierra Madre, and Pacific and the Chihuahua and Pacific. These in 1909 passed from American to Canadian control under the name of the Mexico North Western, and through connections were established between Juarez and Chihuahua by 1912.

Before the Chihuahua and Pacific passed from the control of its original owners, it had granted trackage rights over that parts of its line from Chihuahua to Miñaca and surrendered its franchise across the mountains to the Kansas City, Mexico, and Orient railway, which was forced into receivership in 1912 before any attempt had been made to pierce the mountain barrier. In 1919 the Mexican government announced that work would soon be resumed, under military protection, on that part of the route between Falomir and the Rio Grande.

In the last years of Diaz rule, a short line was begun from

## THE PERMANENT WAY AND STRUCTURES

Durango to Llano-Grande to open up a rich timber region and also with the idea of ultimately extending westward to Mazatlan. This line was completed in 1913, and in 1919 a further extension of some thirty miles to El Salto was constructed; but no attempt has been made to cross the range to Mazatlan, nor is such an attempt likely for many years.

The Sierra Madre range also blocks the way between the City of Mexico and the port of Acapulco, although a railroad over that route has been the dream of promoters for three-quarters of a century. Acapulco was the western goal of the pioneer Mexican railway which stopped at the City of Mexico, of the Interoceanic railway which reached the Amacusac river in Morelos, and of the Mexico, Cuernavaca, and Pacific which halted at the Balsas river in eastern Guerrero in 1899. In 1912 the project was revived and work was begun on a line from Acapulco up the coast toward Zihuatenejos, but suspended after the completion of three miles because of the activity of bandits.

Better results have been obtained over the route between the City of Mexico and Mazatlan. In 1905 Southern Pacific interests obtained a concession for a railroad from Guadalajara to Mazatlan and also to Guaymas, the southern terminus of the Sonora railway. Construction was pushed with vigor until 1912, when the disturbed condition of the country made further work impossible on the final section through the Sierra Madre between Orendain and LaQuemada. This is an extremely difficult route, and it is possible that the route from Orendain to San Marcos, on the Pacific extension of the Mexican Central, will be chosen instead.

A direct line from the Rio Grande at Matamoros through Tampico and across the eastern Sierra Madre to the City of Mexico was the aim of Count Telfener, whose New York, Texas,



## THE RAILROADS OF MEXICO

and Mexico project received some prominence in the eighties. It was also the desire of President Diaz, who in 1904 urged the construction of a railroad from the Capital to Tampico. With the development of the rich oil fields in the Tampico-Tuxpam district, the need for better railroad connections became more urgent, and in 1912 work was begun on a line from Tampico to San Francisco, on the Interoceanic railway, with a branch to Honey. Such a line would effect connections with two railroads running out of the City of Mexico, but there is no immediate likelihood of the construction of the branch to Honey. In 1914 work was suspended after some twenty miles had been built, and little progress has been made since that time.

This completes the record of actual accomplishment upon the more important routes included in the Diaz program. There are other lines, however, which should receive attention. In 1919 a line was under construction in Coahuila, between Cuatro Cienegas and Sierra Mojada to connect the old Mexican International with the Mexican Northern. From Sierra Mojada a further extension is planned to a connection with the Mexico North Western and the Kansas City, Mexico, and Orient at Chihuahua, but the difficulty of the route makes the construction of such a line a remote possibility. In 1919 also the Mexican government ordered the resumption of work—begun in 1911 and suspended in 1913—upon another line in Coahuila, designed to connect Allende, on the Mexican International, with a projected branch of the Kansas City, Mexico, and Orient.

After ten years of intermittent construction a line was opened in 1919 between Canitas, on the Mexican Central, and the city of Durango, putting that city in more direct communication with Capital and opening a region rich in minerals. In 1918-19 work was begun on an extension of the Mexican Inter-

## THE PERMANENT WAY AND STRUCTURES

national from Tepehuanes to Guanacevi. The ultimate goal is El Oro, where a connection would be made with the Parral branch of the Mexican Central. The Pacific extension of the Mexican Central was connected with the Morelia branch of the old Mexican National by a line built from Penjamo to Ajuno in 1910-14.

In 1911 the Mexican Southern opened a branch from Oaxaca to Taviche and in 1912, a branch from Oaxaca to Tlacolula. In 1913 the Vera Cruz and Isthmus completed a branch from Burro to San Andres Tuxtla and another branch from Tres Valles to Cerro Colorado, both in the state of Vera Cruz. In 1917 the state of Coahuila began the construction of a short line from Saltillo towards the east, with the immediate purpose of opening mineral lands. This was under construction in 1919. Work was also completed in 1920 on a short line from LaCapilla, on the Pacific extension of the Mexican Central, to Chapala on the northern shore of the lake of that name.

In 1920 the reported railroad mileage in the entire country was 16,726, excluding purely local lines under state jurisdiction.<sup>1</sup>

The railroads of Mexico were constructed under competitive conditions, with the result that parallel lines were laid down in regions which could not produce enough traffic to make profitable operation possible. One of the arguments advanced in favor of the formation of the great merger and the organization of the National Railways of Mexico was that under the new company such unnecessary and wasteful lines might be suppressed.

The first step in this direction was taken in 1910-11 when operation was suspended on three branch lines aggregating forty-five miles. In 1911-12 one of these branches, twelve

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<sup>1</sup> De la Huerta, "Informe presidencial," Sept. 1, 1920:51.

## THE RAILROADS OF MEXICO

miles in length, was taken up; and operations were suspended on 131 miles of the old Mexican International. The lines not in operation during that year aggregated 164 miles; and a total trackage of 289 miles was scheduled for abandonment. During 1912-13 a total trackage of 111 miles was taken up, and fifty-eight miles were reported not in operation. No changes were reported during the following year, and the reports for subsequent years give no information on the subject.

Under normal conditions it is the practice of railroad companies everywhere to improve their physical properties and thus make possible more economical operation and a larger net revenue. Tracks are relaid with heavier rails, new side and passing tracks are built, permanent ballast is placed in the track, grades and curves are reduced, and narrow-gauge track is relaid at standard width. Bridges, trestles, and culverts are replaced by more permanent types of structures, and stations and shops are built and enlarged. Provision for work of this nature is generally made out of capital funds. Such work is impossible in times of disorder. Thus it is not surprising to find in the annual report of the National Railways of Mexico for 1914-15 the statement:

"As the Company was losing its control over its property, being gradually deprived of its source of revenues, and its financial situation becoming extremely difficult, it is logical to imagine that for the short period [six weeks] of operation under review, there would not perhaps be any important work of betterment, addition or replacement to report. . . ."

In the four preceding years such work has been carried on to the extent of 13,700,000 pesos. Over half of this amount was expended in 1910-11; in 1913-14 the outlay was less than a

## THE PERMANENT WAY AND STRUCTURES

million pesos. In 1911-12 the Interoceanic completed its Metepec-San Lorenzo deviation, eliminating heavy grades and sharp curves. The record of the last half-dozen years is one, not of betterments, but rather of attempts at maintenance and rehabilitation.

Mexico is a country in which railroad property is subject to rapid deterioration through action of the elements, except in the arid sections of the north. There are occasional torrential rains which cause landslides, wash out or soften the roadway, and carry away bridges. Steel bridges and rails are less liable to rust than in the United States, but bridge timbers, piles, and ties wear out rapidly. On the Mexican railway extensive use has been made of steel ties. Ties of Mexican oak are laid when they can be obtained, but pine ties are in general use throughout the country. They are soft and are easily cut by the rails; they crack in the dry seasons and decay rapidly in the rainy months. In their natural state they will last from eighteen months to two years, and when "treated" they will last from four to six years.

It is obvious that when the work of maintenance is neglected, as it has been during the recent years of political upheaval, a great part of the trackage must be renewed. One of the officers of the National Railways of Mexico has estimated that at least half of the lines must be renewed, and his estimate has no reference to the damage suffered through violence.

When one considers the extent to which the permanent way deteriorates in Mexico through natural causes and the known fact that ordinary maintenance work has been generally suspended, it would appear that the actual destruction of track through the activity of rebels and bandits has been less than the amount indicated by the press reports. However, few lines have escaped such destruction. On the Kansas City, Mexico,

## THE RAILROADS OF MEXICO

and Orient, the road between Marquez and San Sostenes has been practically destroyed. Miles of track on the Mexican railway have been torn up, necessitating extensive renewals. Considerable track has been destroyed on the Southern Pacific, particularly on that part of the line between Acaponeta and Tepic. The Mexico North Western has suffered relatively more damage than any other railroad in Mexico.

An American engineer thus described the methods of track destruction observed by him in Coahuila in 1913:

"Up to the past six months track destruction has been accomplished either by the use of a wrecking crane, which lifted sections of rails and ties bodily and piled them up ready for burning, or by the slower process of the claw-bar, wrench and pick. But a Constitutionalist expert devised a new system. . . .

"A trench is dug between two ties, through which a heavy chain is passed around two opposite rails and made fast in the center of the track. To this one end of a heavy steel cable is hooked, the other end being made fast to the coupling on the engine pilot. At the signal the engineer starts his locomotive slowly backward. . . . The rails are torn loose from the spikes that hold them to the ties and are dragged closely together in the center of the roadbed. The ties are loosened from the ballast and dragged into piles, while in many cases the rails are badly bent and twisted by the force applied. A gang of men follows the engine, piling ties on top of the rails and leaving others beneath them. These are then saturated with oil and a match applied. In a short time the ties are consumed and the rails are left lying on the ground twisted and contorted into all sorts of shapes, and of no further use until they have been re-rolled.'"<sup>2</sup>

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<sup>2</sup> Weeks, How Mexican rebels destroy railways and bridges, "Scientific American," (n. s.) CIX, 209 (1913).

## THE PERMANENT WAY AND STRUCTURES

Another witness has declared that on the line of the old Mexican Central, "In some places the rebels have even taken scrapers and scraped away the roadbed."<sup>3</sup>

Bridges and trestles are the most vulnerable parts of a line of railroad; for, unlike a track, they can be destroyed with little difficulty, and once destroyed, they are difficult to replace. All accounts agree as to the large number of bridges destroyed in Mexico. Says a Vice-President of the Southern Pacific:

"The normal method of procedure included the burning of all wooden bridges in the theatre of operations. The smaller the band, the greater seems its conception of the importance of preventing pursuit by destroying railway bridges. The topography and climatology of Mexico are such that provision must be made for adequate drainage in cases of sudden and severe rainfall. The greater part of these openings are as yet bridged by wooden structures. Traffic, can, therefore, easily be tied up and operations nullified by a few bridge burners. The Southern Pacific of Mexico alone has found 300 bridges burned in the last three years."<sup>4</sup>

On the lines of the National Railways, according to the annual report for 1915-16, "it is estimated that from thirty-five to forty per cent of the bridges have been destroyed. Out of these sixty per cent were due to the war and forty per cent to lack of adequate maintenance." In the annual report of the Southern Pacific company for 1911-12 we are told:

"On the main line from Empalme to Tepic, twenty-three wooden trestles, having a total length of 2,985 lineal feet, and on the Corral-Tonichi Branch, four wooden trestles, having a

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<sup>3</sup> U. S. Senate Committee on Foreign Relations, Hearings . . . to investigate whether any interests in the United States have been or are now engaged in inciting rebellion in Cuba or Mexico, 354 (1913).

<sup>4</sup> Hine, Wartime railroading in Mexico, "Railway Age Gazette," IV, 722 (1914).

## THE RAILROADS OF MEXICO

total length of 240 lineal feet, were destroyed by the insurgents between February 14th and June 30th, 1912."

All of the bridges on the Nacozari railroad have been destroyed.

Like bridges, stations and other buildings are easily destroyed; and all reports coming out of Mexico agree that the destruction has been widespread. Says one press report: "Hardly a station has not been burned between Monterey and Mexico City." An American reporter who entered Mexico at Piedras Negras late in 1915 and traveled by rail southward through San Luis Potosi wrote: "Every station was gone, and every freight shed, and most of the miserable little section houses which had sheltered a poor family. Telegraph wires were down. Water tanks had been blasted to pieces; one that we passed standing full 200 feet, and right side up, from its ruined foundations." Tanks have been riddled with bullets and shops have been destroyed.

In the year 1912-13 the Interoceanic reported the loss or damage of fifteen stations. The annual report of the National Railways of Mexico for 1915-16 says:

"The buildings, signals, water and fuel stations, and other similar structures have also suffered considerably because of the war, especially on the San Luis Potosi, Aguascalientes and Northern divisions, and along the lines of the Interoceanic and Mexican Southern Railways."

Information as to the extent to which railroad property has been restored or replaced is quite as difficult to obtain as information as to the extent of destruction, and for similar reasons. Unofficial statements are incomplete and in conflict with each other and also with the official reports, which are admittedly no more than careful estimates. Unquestionably

## THE PERMANENT WAY AND STRUCTURES

some of the optimistic statements as to work done include work that is in progress as well as work that is proposed.

In general, it may be said that, although many lines have been out of service for considerable periods, the work of repair of roadway, superstructures, and bridges has closely followed destruction. In some cases this work has been done by the companies themselves; in others the military authorities have done such work as was necessary to make possible the movement of troop trains. Thus metal bridges have been replaced by wooden bridges, trestles have been restored, and rails have been relaid. In some places this has had to be done several times, as the conflicting forces alternately came into control. The Southern Pacific rebuilt one bridge nine times, five times in a single month. Work of this nature, done under limitations both of time and of materials, is likely to be inferior and temporary in character; and we learn of the loss through floods of wooden bridges which had been built as substitutes for the steel structures that were destroyed.

The main line of the old Mexican National, all accounts agree, is in good condition. The same seems to be true of the lines from Matamoros to Monterey, from Paredon to Saltillo, from Tampico to San Luis Potosi, from Mexico to Toluca, and from Mexico to Irapuato, Guadalajara, and Aguascalientes. The lines of the Mexican railway, the Vera Cruz (Mexico) railway, the Mexican Southern, the United Railways of Yucatan, the Tehuantepec, and a part of the Southern Pacific are reported to be in good or fair condition. This list is not inclusive. A work program of the National Railways appeared in the annual report for 1915-16 under the title "Estimate of



## THE RAILROADS OF MEXICO

the probable cost of repairing and reconstructing the properties." A summary of totals follows:

Tracks .....	27,393,617 pesos
Bridges .....	8,558,048 "
Buildings .....	3,922,000 "
Equipment .....	9,000,000 "

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Total	48,873,665 "
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These figures will have to be considerably increased on account of the rise in prices and the wear and tear of subsequent years. In 1919 a commissioner was appointed to prepare a new official estimate. His report, made public in February 1921, estimated that immediate reconstruction needs of the railroads under government operation would call for an outlay of 15,000,000 pesos. In view of the figures given above this would seem to be an understatement. Annual maintenance requirements were estimated at 14,000,000 pesos.<sup>5</sup>

To restore the Mexican railway to its former condition it has been estimated that an outlay of £2,000,000 will be required.<sup>6</sup> The Southern Pacific estimated that on December 31, 1919 the value in pesos of property destroyed since 1910 was 4,898,700. As early as 1913 the damage wrought to the property of the Mexico North Western was estimated at £1,000,000. A recent estimate of the cost of restoring the Tehuantepec line is \$15,000,000.

The Fall sub-committee of the United States senate committee on foreign relations estimated that the damage to American railroad property in Mexico amounts to \$112,000,000.

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<sup>5</sup> "El Excelsior," February 14, 1921.

<sup>6</sup> In 1920 the Mexican government agreed to pay 200,000 pesos monthly on account of damage claims to this road.

## CHAPTER IV

### THE EQUIPMENT SITUATION

STATEMENTS, official and unofficial, as to the destruction of railroad equipment are in hopeless conflict and confusion. It is known that all lines have suffered, but the evidence is fragmentary and misleading. From the annual reports of the National Railways of Mexico it would appear that the number of cars of all varieties lost, destroyed, or condemned in the years 1911-17 was about 9250. In other words, over 40 per cent of the rolling stock owned on June 30, 1911, or purchased within the next six years, was out of service. The loss of locomotives was several hundred.

This estimate is presented for what it is worth. It is based upon figures which, in the light of subsequent returns, would appear to understate the loss. Conservative as it certainly is, it shows a most serious shrinkage in facilities. It agrees roughly with the recent estimates of representatives of the National Railways, which places the loss in cars alone at 10,000. Similar estimates for the controlled and independent lines would be equally impressive.

Lack of data makes it impossible to present estimates of the losses of the controlled lines, but some significant facts are available. On the Interoceanic there were 1304 cars in 1911 and 1102 in 1917: on the Mexican Southern the number of cars shrunk from 335 to 274 in that period. The equipment figures of the Vera Cruz and Isthmus and the Pan-American railroads are lumped in the official reports. They show that in 1913 there was a total of 695 cars and

## THE RAILROADS OF MEXICO

thirty-five locomotives. The corresponding figures for 1917 were 548 and twenty. There has been enough shifting about of the equipment of the lines operated by the government to make the figures for subsequent years of no value. Little can be said of the equipment of the independent lines, most of which are located in regions where the disturbance has been greatest; but that the losses have been heavy, both from destruction and seizure, is certain. Some of the equipment of the Mexican railway, especially sleeping cars, has been taken and distributed over the government lines.

American railroads also have suffered loss of their equipment in Mexico. In 1916 it was reported that the Southern Pacific system had 1,200 freight cars lost "somewhere in Mexico." Late in 1920 it was announced that the Mexican government had agreed to pay \$388,000 (and had made an initial payment of \$120,000) for 468 American cars delivered prior to January 1, 1918 and interest thereon to January 1, 1921 amounting to \$98,000.

As to the methods employed in the destruction of rolling stock, a description is hardly necessary. The following account is perhaps exceptional, but it is presented as a pertinent piece of evidence:

"Among the worst of the innumerable acts of vandalism committed by the different warring factions in Mexico, the destruction wrought on the property of the National Railways in Monterey by Carrancistas on the eve of their recent evacuation of the city probably caps the climax. When the near approach of the Villa forces made it apparent to the Carranza followers that they would have to abandon the town, it was decided to celebrate their coming departure with an orgy of anarchy. Locomotives were sent out to gather up all the box cars of the adjacent divisions of the

## THE EQUIPMENT SITUATION

railway and bring them to Monterey for the purpose of making a bonfire of them. These cars—more than 600 in number—were hauled into town and lined up on the extensive division terminal tracks. On the last night the Carrancista officers gave an elaborate ball in the handsome passenger station of the National Railways, which ended with a mock ceremony in which the torch was applied to the costly passenger station and to the 600 box cars. Within a few hours all of this property was in ruins.”<sup>1</sup>

As to the condition of the rolling stock that has escaped destruction, all accounts agree that it is poor. “The remaining rolling stock is generally in poor condition and a good part of it—principally the locomotives—can hardly continue in service unless properly repaired,” says the annual report of the National Railways for 1915-16. Again, “Much of the equipment [recovered from the military chiefs] had to be submitted to costly and important repairs, not only because of rough handling received in the campaign, but of the defacements and mutilations, so to speak, to which much of it had been subjected to adapt them for dwelling purposes. For instance, many of the box cars had windows cut in them, the seats of many passenger cars were missing, and in their stead were constructed grotesque wooden partitions to transform them into special or ambulance cars, etc.” As a bit of detailed description, the following is presented from the account of an American reporter:

“Our car was a wonder. Every seat had been stripped clean of its upholstery, the patriots having taken it to use for saddle cloths or for dresses for their women. Some of the seats had been removed altogether. Every window was kicked out. It was especially interesting to nervous people

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<sup>1</sup> “Railway Age Gazette,” LVIII, 857 (1915).

## THE RAILROADS OF MEXICO

to note that the bell rope was gone. . . . There were no lamps in the cars."

Efforts have been made to replace lost equipment and to repair such equipment as is capable of repair. This has been difficult on account of the rise in prices of materials and the embargo on shipments from the United States, both caused by the European war. The shops of the National Railways at Piedras Negras, Monterey, Aguascalientes, and Mexico City have been busy on repairs to rolling stock; and some locomotives have been repaired under contract at shops in the United States.

Except during the years 1910-11 purchases of new equipment by the National Railways during the revolutionary period were small. In that year 3888 cars and twenty locomotives were acquired at a cost of over 7,000,000 pesos. During the next five years less than 800 cars were added, at a cost of about 1,375,000 pesos. Late in 1916, 560 cars and twenty locomotives were bought. Information as to more recent activity is fragmentary. "Within the last six months," said the Mexican News Bureau under date of November, 1917, "there have been purchased 600 freight cars, 80 passenger cars and 60 locomotives. Three thousand cars are now under repair in the company's own shops, which when completed will bring the equipment practically to the same point as in 1913—in fact, it is already larger, so far as regards locomotives and passenger coaches, but a trifle less in regard to freight cars." It is known that in that year the Delaware, Lackawanna, and Western railroad sold to Mexican agents a large number of wooden passenger cars. In a message submitted by President Carranza in September, 1917, is this statement:

"For all the work of the railways we have 364 locomotives,

## THE EQUIPMENT SITUATION

including some which belong to private individuals. This number represents approximately 50 per cent of what was used by the former National Railways at the beginning of 1913. Materials have been ordered from the United States and are already beginning to be received, with which 270 locomotives will be repaired. There will also be repaired another 190 locomotives within a short time, these being locomotives which at all times have been in use but which are in poor condition, due to hard service. Contracts have also been made with the great locomotive shops of Houston and Kingsville for the periodical repair of locomotives in groups of five with the object of pushing ahead the work of repair which cannot be done so quickly in the Mexican shops, and thus there will be obtained a monthly increase in the number of locomotives in use. The number of cars at present in use for commercial traffic is 13,326. The number in 1912 was 19,523. This makes an appreciable difference, owing to the number of cars destroyed during the revolutionary period, but there remain approximately 3,000 cars which may be reconstructed, and up to date there have been repaired 800 of these.”<sup>2</sup>

In 1919 representatives of the national lines were again in the American market negotiating for passenger and freight cars. That the need was pressing is evident from the figures given in the presidential message of September, 1919. At that time the national system had 443 locomotives, 10,780 freight cars, and 417 passenger, express, and baggage cars.<sup>3</sup> In 1920 there were 512 locomotives in service, 103 under repair, and 326 awaiting materials for repair; 489 passenger,

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<sup>2</sup> “El Universal,” Sept. 3, 1917.

<sup>3</sup> Carranza, “Informe presidencial,” Sept. 1, 1919:78-9.

## THE RAILROADS OF MEXICO

express, and baggage cars, and 13,256 freight cars.<sup>4</sup>

This means that there is need in Mexico for a great variety and amount of railroad materials and supplies<sup>5</sup> for repairs and also for equipment at a time when the world is passing through a period of economic readjustment which is characterized by an urgent demand for the depleted stock of goods.

According to one estimate there is now a shortage of 240,000 cars on the railroads of the United States, and 235,000 in addition will be required for replacements in the next three years. Another estimate is 100,000 freight cars, 4000 passenger cars, and 2000 locomotives for immediate use. Either estimate is sufficiently large to indicate the extent of the competition which the railroads to Mexico must meet. They may be able to obtain some equipment from European sources, but it would seem as if they must place chief reliance upon the possibility of obtaining second-hand equipment from the United States. In any event, they must face the fact that railroad equipment has tripled in price within the last six years.

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<sup>4</sup> De la Huerta, "Informe presidencial," Sept. 1, 1920:51.

<sup>5</sup> For an estimate, see "Railway Age," LXVI, 1374-5 (1919).

## CHAPTER V

### OPERATION UNDER DIFFICULTIES

**A**RTICLE 145 of the general railroad law provides:

“The Nation shall have the following rights:

“1. A reduction of fifty per cent in the maximum rates, provided for by the law of concession, for Federal army men and employees, agents and commissioners, traveling on official business. . . .

“3. For the transportation of military forces or of the police, of siege trains, ammunition, equipment, provisions, horses, mules, and any other object or article destined for the public service, a rebate of fifty per cent in the same maximum rate shall be granted.

“4. Whenever the Government needs special trains for the transportation of troops and freight, the cost of said trains shall only be fifty per cent of the average value per kilometer of the proceeds, respectively, of passenger and freight trains in the previous years according to the local tariff. .

“5. The transmission of telegraph messages, and in general any other services done for the Federal Government, shall cost half of the maximum rate for each service as determined by the concession. . . .

“11. In the event of war or of extraordinary circumstance, the Executive may take measures to render unserviceable either the whole or part of the line, also the bridges, telegraph lines and signals forming part of the road.

“12. In case the Executive orders the suspension of the service, for the sake of the country's defence of the public



## THE RAILROADS OF MEXICO

peace, it may also order that all the rolling stock and any other material shall be removed. In such cases the War Department will determine the places to which said material is to be taken."<sup>1</sup>

While it is known that the various factions that have been in control of the government of Mexico within the last ten years have taken full advantage of these sections of the law, detailed information on the subject has not been given out. The Southern Pacific in its annual report for 1919 showed a cumulative claim of 8,947,000 pesos against the government "for service, rental of road and equipment and for material furnished or confiscated by military authorities."

Military service not only jeopardizes the physical property of railroad companies, it diverts equipment from its normal use, thus preventing the carrying on of ordinary commercial business; it congests the terminals, stations, and right of way both with military materials and with ordinary traffic which cannot be moved; it overworks and demoralizes the personnel; and it reduces the operating revenues. Even when military activities are confined to the operation of troop cars or trains and to the suppression of scattered groups of bandits and insurrectos, there is much loss, particularly through the diversion of equipment. In June, 1917, a period of comparative quiet, there were forty-three locomotives, fifty-one passenger cars, and 453 freight cars in the control of the military authorities.<sup>2</sup>

During the greater part of the presidency of Victoriano Huerta the railroads were operated through their own organizations, but subject to the direction of the government. Upon the outbreak of hostilities with the United States,

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<sup>1</sup> Ley sobre ferrocarriles, "Diario Oficial," May 13, 1899; Mexican year book, 1908:653.

<sup>2</sup> "El Pueblo," June 12, 1917.

## OPERATION UNDER DIFFICULTIES

April 21, 1914, Huerta assumed control of and commenced to operate the National Railways of Mexico and the Mexican railway, to the extent that those lines were within his jurisdiction. This was a regular procedure under the provision of the general railroad law:

“The Nation will have the following rights: . . .

“10. The Federal authorities are entitled in case, in their opinion, the interests of the country require it, to make requisition on the railroads, their personnel and all their operating material and to use them as they may consider advisable. In this case the Nation shall indemnify the railroad companies. . . .”

When, after Huerta's resignation, the “Constitutionalist” forces under Carranza entered the Capital on August 14, 1914, the property of the National Railways was seized, including the general offices of the company. Then followed a period of confusion, which has been described in the following official terms:

“The Board of Directors, which was elected on the 13th of October, 1914, and on assuming charge, counted firmly upon the fact that the Constitutionalist Government was going to effect immediate delivery of the lines and properties of the Company, which it had taken over by virtue of the necessities of the war, because, in fact, information to the effect that such were the Government's intentions had reached the Directors. Unfortunately hostilities began in a new campaign. . . . Shortly afterwards, we were confronted with an embarrassing situation, as every military chief who entered or left the city had more or less troublesome demands to make.”

The Mexican railway was taken over on November 18, 1914. The reason for this action was declared to be, “After

## THE RAILROADS OF MEXICO

the Capital of the Republic was evacuated and the Constitutionalist Government was established in the Port of Vera Cruz, the General Manager of the Mexican Railway ordered the suspension of all traffic and laid off all the employees in the zone occupied by the Constitutionalist forces, that is, from Ometusco to Vera Cruz." The statement continues, "Confronted by the urgency of operating this line and those of such regions as might be regained, for commercial and military purposes the Citizen First Chief of the Constitutionalist Army Entrusted with the Executive Power of the Union, issued at Vera Cruz on December 4, 1914, the Decree of Seizure of the Railway, Telegraph, and Telephone lines of the Republic, based on Section X of Article 145 of the Railway Law. . . .

"The lines in the territory controlled by the Constitutionalist Forces were: that part of the Mexican Railway between Apizaco and Vera Cruz; that of the Interoceanic Railway from said port to Perote; the Vera Cruz and Isthmus Railway; the Pan-American Railway; the Tehuantepec National Railway; the United Railways of Yucatan, and small branch railways with terminals at the various ports with the exception of the Guaymas Railway. . . . The military requirements did not necessitate the seizure of the Tehuantepec Railway."

The preamble shows that the decree was issued as a temporary measure, and such it must be under the terms of the law. Its declared purpose was to meet "the requirements of the present campaign and of the public service," and its contents was as follows:

"The Constitutionalist Government assumes from this date the direction, management and administration of all the rail-

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<sup>8</sup> National Railways, Annual report, 1915-16:14-15; "Chronicle," XCIX, 1673 (1914), C. 229 (1915).

## OPERATION UNDER DIFFICULTIES

way lines, their way stations, terminal stations and other dependencies, whether they belong to them or to any companies or concerns connected with the same, as well as all the telegraph, telephone or other lines of communication, whatsoever their nature, situated in territory controlled by this Government.”<sup>4</sup>

Notwithstanding its general terms, this decree was not immediately put into effect with reference to all the lines within the territory then controlled, as appears from the exceptions noted in a preceding paragraph and also from action taken subsequently and to be considered later in the course of this discussion.

To operate the lines to be taken over by the government the “Direction General of the Constitutionalist Railways of Mexico” was created, reporting to Carranza as “Citizen First Chief of the Constitutionalist Army Entrusted with the Executive Power of the Union.”<sup>5</sup>

Meanwhile the control of the Capital passed temporarily to the forces of the opposition (Zapata), and the National Railways were subjected to further embarrassment:

“About the middle of January last [1915] there was taken out of our building at Bolivar Street, as well as of the stations of Colonia and Buenavista, practically the whole of the furniture and fixtures. We figure that the value of the extracted outfit is over one hundred thousand pesos. . . . In those days officials and employees of the Company were prevented access to the offices. There were also taken away books, documents and papers which are indispensable to all the departments, and especially to the Accounting

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<sup>4</sup> “Codificación de los decretos del C. Venustiano Carranza, gobierno provisional de la República Mexicana,” 126 (1915); National Railways, Annual report, 1915-16:31.

<sup>5</sup> National Railways, Annual report, 1915-16:14.

## THE RAILROADS OF MEXICO

Department, this being the reason why the accounts have not been kept up to date, and for inability to close same at the date of the occupation of our properties.”<sup>6</sup>

During the first seven months of 1915 the decree was made applicable to other lines: “The branches from Apizaco to Pueblo, and from Ometusco to Pachuca (Mexican Railway) and a part of the Mexican Railway.” This increased the extent of lines operated by the government to about 2300 miles.

“The lines forming that system, beside the commercial service . . . carried on the transportation of troops and of all kinds of foodstuffs, and of war material for the armies in the field, which were extending the Government’s control, or for the forces putting down banditti in the regions already conquered. On the other hand, the lines running through the centre of the Republic and through the North, were assigned exclusively for campaign purposes, under immediate charge of the Respective Chiefs.”<sup>7</sup>

In August, 1915, the Constitutionalist forces effected final occupation of the City of Mexico, and on September 1st the Mexican railway was returned to its owners, in view of the fact that communications were about to be reestablished between Vera Cruz and the City of Mexico over the line of the Interoceanic railway.<sup>8</sup>

On September 28 the Constitutionalist railways were transferred from a military to a civil status by a decree which reads:

“Management of the commercial traffic throughout the Republic is intrusted exclusively to the General Direction of the Railways . . . in accordance with regulations approved

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<sup>6</sup> Ibid., 1914-15:3.

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<sup>7</sup> Ibid., 1915-16:15.

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<sup>8</sup> Ibid., 15, 20.

## OPERATION UNDER DIFFICULTIES

by the First Chieftancy. Proceed, therefore, to order that civil and military authorities shall no longer intervene in said service beyond furnishing the moral and material co-operation which the Direction may require to facilitate fulfillment of the said regulations."

In more specific terms, this involved the lines of the National Railways and their subsidiaries, having a total extent of 10,932 miles.\*

The reason for this transfer of authority was the difficulty which the Direction General had encountered in the task of restoring the lines to normal operation,—a matter of immediate urgency in view of the extraordinary scarcity of commodities due to military activities. The nature of these difficulties as officially described was as follows:

"The campaign had placed in the hands of the 'Military Chiefs' the greater part of the rolling stock, not only such as was assigned for the military service, in keeping with the requirements of the military conflict, but also such as had been taken from the enemy and which was considered spoils of war. Most of these Military Chiefs used this rolling stock not only to transport troops and their provisions, but as barracks and permanent dwellings for the soldiers and their families, and frequently for freight transportation within their jurisdiction for personal profit. These exceptional conditions of comfort and profit for the masters of the situation became a formidable obstruction to the reopening and normalization of traffic and added to the other difficulties of reconstructing the track, bridges, buildings, equipment, and so forth, and to the general reorganization of the railway service.

"Many of the efforts of the Direction General of the Con-

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\* Ibid., 81, 45; "Chronicle," CI, 1597.

## THE RAILROADS OF MEXICO

stitutionalist Railways of Mexico, therefore, had to be devoted to recovering the rolling stock which was not legitimately employed in military work and to devise and enforce regulations for the discipline of the personnel. Much of the equipment thus recovered before placing it in the public service had to be submitted to costly and important repairs. . . . The personnel in charge of the train movements, besides being entirely under the orders of the Military Chiefs, was incompetent. The officers and principal employees had military ranks and many of them—simple brakemen or firemen—had become superintendents or train-masters, for merit in the military campaign, but in no sense because of their railroad efficiency.

“In short, the poor condition of the tracks and of the equipment, the lack of efficiency and discipline on the part of the personnel, the constant and unwarranted meddlings of the military element in the railways—especially in the northern part of the Republic—and the depredations of the bandits not yet suppressed, frequently produced accidents most expensive in loss of life and money, and very serious obstacles to the normalization of commercial traffic. . . .

“The chaos of the month of August [1915] did not permit, in the limited lines newly opened for operation, assurance that any train would reach its destination, much less at a fixed day or hour. Two months thereafter, the 15th of October, for instance, among other improvements, daily passenger service between Mexico City and Laredo was resumed—1,300 kilometers (800 miles), and the trains ran with safety and regularity.

“In order to improve the condition of the people who were suffering from the extraordinary scarcity of commodities, the military authorities—directly or through provosts or special

## OPERATION UNDER DIFFICULTIES

governing bodies—committed the error of trying to regulate commerce by stipulating certain fixed prices on merchandise and restricting its withdrawal outside the limit of their respective jurisdiction. This mistake, besides producing results quite contrary to those sought, gave rise—since the distribution of empty cars among the interested parties could not be made subject to definite and equitable laws—to the occurrence that the speculators proceeded to extend their corrupting action to the railway personnel and even to the authorities themselves. To give an idea of the margin existing to warrant their practices from their point of view, it will suffice to point out that the arrival of one carload of corn at Mexico City, in view of the distortion of prices due to transportation difficulties, frequently meant a profit of from fifteen to twenty thousand pesos.”<sup>10</sup>

Various additional decrees were issued from time to time to strengthen the authority of the Direction General. Two of these were designed to give force to regulations for the distribution of empty cars; another declared railroad and military services to be incompatible, thereby eliminating members of the army from railroad interference or control; another created a reserve corps for revolutionary railroad employees who had rendered service to the Constitutionalist Government, thereby providing for a “civilian railroad personnel.”

Military service was organized under two classifications: “that of the Railroad Protection Forces, to escort passenger trains; and that of Military Transportation, for service in the field.”

The government again took over the operation of the Mexican railway on April 3, 1917; and during the same

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<sup>10</sup> National Railways, Annual report, 1915-16:16-17.



## THE RAILROADS OF MEXICO

month it also seized the Vera Cruz (Mexico) railway, the Vera Cruz Terminal, and the Tehuantepec National railway. The seizure of the Tehuantepec line made necessary the dissolution of the partnership between the government and the Pearson interests, and this was effected on January 19, 1918. This line then took the name of "National Railway of Tehuantepec."<sup>11</sup> It was reported, after the fall of Carranza, that Congress would be asked to cancel the Pearson settlement and thus revive the old arrangement.

In 1917 it was rumored that the Constitutionalist railways would be soon turned over to the Ministry of Communications, action which would result in returning the various lines to their original status. This was not done, however. Instead, in June of that year the operation of the Vera Cruz and Isthmus, the Vera Cruz (Mexico), the National Tehuantepec, and the Pan-American lines was consolidated under a single management, subject to the Direction General of the Constitutionalist railways; and the operation of the lines of the National Railways of Mexico and their subsidiaries (except the Vera Cruz and Isthmus and the Pan-American) was continued by the Constitutionalist railways.

Effective January 1, 1919, the name "Constitutionalist" was abandoned, and the government-operated lines became known as National Railways of Mexico and Southeastern Lines in Mexico.<sup>12</sup>

From time to time the owners of the Mexican railway urged the government to surrender the property, but the reply was that it would not be "convenient" to do so. In October, 1919, press reports indicated the possibility of the return of the National Railways of Mexico to the shareholders, but they only served to bring out the declaration

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<sup>11</sup> "Diario Oficial," VIII, 197, 1115 (1918).

<sup>12</sup> Ibid., X, 855.

## OPERATION UNDER DIFFICULTIES

that "The railway lines will not be returned to their former owners until the service has been entirely normalized."<sup>13</sup> The Mexican railway, however, was returned to its owners on June 18, 1920.

Because of its isolation, Yucatan was able to exercise a considerable degree of independence of the central government under Huerta. In 1914 the state government in conjunction with the *Compañía de Fomento del Sureste* assumed the direct operation of the United Railways of Yucatan, which became known as the "Constitutionalist Railways of Yucatan." In 1919 the national government was attempting to obtain the majority of the share capital of this company.

In Sonora state operation was attempted with less success:

"On March 5, 1913, the state of Sonora revolted against the newly established Huerta government, and seized that part of the Southern Pacific of Mexico lying north of Empalme. For six weeks the officials of the road were powerless. Operation was carried on from Hermosillo, the capital of the state of Sonora, by the state officials, with six locomotives and other equipment forcibly seized. . . . Six weeks of such operation gave the state officials their fill. Outgo so exceeded income that the road was unconditionally returned to its owners."<sup>14</sup>

The Southern Pacific Railroad of Mexico is the longest line that has been left in the control of its owners. The incomplete Kansas City, Mexico, and Orient is in the hands of a receiver. The other independently operated lines are generally those which serve some particular industry—lumber or mining—and the most important of them are in the northern states. Such are: the Mexico North Western (con-

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<sup>13</sup> "El Excelsior," Nov. 12, 1919.

<sup>14</sup> Hine, Wartime railroading in Mexico, "Railway Age Gazette," LV, 703 (1914).

## THE RAILROADS OF MEXICO

trolling a large lumber company), the Mexican Northern (leased and operated by the American Metals company), the Nacozari (owned by the Phelps-Dodge mining interests), the Parral and Durango, the Coahuila and Zacatecas (owned by the Mazapil Copper company), and the Potosi and Rio Verde and the Mexican Mineral (both owned by the American *Compañía Metalurgica Mexicana*).

The Mexican government in 1918 ordered the Southern Pacific to reopen its branch from Navojoa to Alamos in Sonora, which had been partially destroyed by revolutionists, and threatened to take over the line if its order were not carried out. No action was taken by either party. The Mexico North Western was also threatened with seizure because of failure to operate over a line on which the bridges have been destroyed.

Railroad directors are unlikely to exaggerate when reporting to their shareholders conditions which adversely affect their property and income. It is proper, therefore, to make liberal use of the statements made in their annual reports.

In the report of the National Railways for 1911-12 conditions were thus described:

"Unfortunately, as the shareholders know, a state of revolution has continued in the Republic, principally in the northern part of the country and in the States of Morelos and Guerrero, which has been the cause of attacks upon and damage to transportation lines, resulting in the interruption and suspension of traffic for a greater or less time." The situation in 1912-13 was similar:

"The conditions which have prevailed throughout the country have affected principally the railway lines. In addition to the damage done to your physical properties, the

## OPERATION UNDER DIFFICULTIES

disturbances and interruptions had a marked effect on the gross earnings of the company, while at the same time the constant reconstruction work made necessary to keep the lines in operation increased materially the ordinary operating expenses."

In the course of an interview published in March, 1913, the president of the National Railways said:

"The fact that our line all the way from the capital to El Paso is open after more or less interruption for a year is significant. The other main line northward from Mexico City, namely to Laredo, was to have been opened this afternoon. It is expected that the Eagle Pass route will be ready for operation its entire length shortly. Most of the line is ready now. South of Mexico City railroad traffic has not been resumed on all our lines. The Cuernavaca division will be ready for operation soon. Most of the Interoceanic Railway is already open. . . . Our losses in earnings have not been so much from destruction of property as from the necessity of using circuitous routes in order to keep traffic moving. . . . The local traffic at Mexico is excellent. The closing of the northern gateways temporarily has interrupted the movement of foreign business, but that is not large in proportion to the local. Business in Mexico has by no means stopped because of the various revolutions. In spite of all the traffic we moved during the periods of greatest trouble there is now a considerable accumulation of loaded freight cars at the principal centres in the recently disturbed districts."<sup>15</sup>

The next annual report, that for 1913-14, gave a less favorable picture:

"Owing to the revolutionary conditions, at times whole districts and sometimes whole divisions were taken from our

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<sup>15</sup> "Chronicle," XLVI, 790.

## THE RAILROADS OF MEXICO

control. We lost the earnings from them and frequently could not communicate with our division officers as to rigid economic administration when we were still liable for expenses. The very best was done that could be done under the circumstances. It is doubtful if a set of operating officers were ever called upon to face such extraordinary conditions in the operation of a railway, as were your officers in the year under review. . . .

"Disturbed conditions throughout the country were worse than during the previous year, and sadly interrupted our construction and improvement work, and also our general operations. At times various divisions of our railway lines were entirely out of our control, and, owing to changes in the management at Mexico City, and in division officers, caused by reasons beyond our control, the records which were made covering these interruptions are not available, and, as a consequence no detailed report can be made now. . . .

"Our general offices in Mexico City have been occupied twice since August 1914 by forces in the employ of different Governments appointed to operate the railways. We thereby lost control of many of our records, and at this time they are not all available."

Whole divisions have been out of operation for long periods, notably the Cuernavaca division, the Coahuila and Pacific division, the line from Juarez to Chihuahua and the line from Guadalajara to the Pacific coast. Tampico has been repeatedly cut off from the interior, and this has meant the shutting off of the supply of fuel oil needed for locomotives. At times all four of the northern gateways into Texas have been closed.

The Interoceanic report for 1910-11 said:

"The company's business suffered through the political disturbances in Mexico, which commenced toward the end of

## OPERATION UNDER DIFFICULTIES

the year 1910; certain sections of the line had to be closed for some time and there was considerable falling off in the volume of traffic through the Port of Vera Cruz." During the next year the experience was the same:

"Our business has to some extent been adversely affected by the unsettled condition of affairs in Mexico, although the actual damage to property has not been great. The disturbances caused suspension of traffic on portions of the line for considerable periods and increased the cost of operating. . . .

"On account of the unsettled state of the country there was a large decrease in revenue from imported goods. . . .

"This portion of the system [Mexican Southern] suffered severely from the revolutionary disturbances, which caused the complete suspension of traffic on numerous occasions."

In 1912-13 the report said:

"The results of the year's workings have again been adversely affected by the continuation of revolutionary disturbances, in consequence of which certain sections of the line, representing 14 per cent of the total mileage, had to be closed to traffic for practically the whole twelve months. . . .

"The disturbed condition of Mexico is accountable for the decrease of 80,431 tons, or 7.95 per cent in the amount of goods carried. . . .

"The traffic of this [Mexican Southern] railway was also adversely affected by the revolutionary disturbances, and consequently the net profits of that line were. . . . less than the rental."

The reports of the Mexico North Western give similar testimony:

"At the end of 1910 political disturbances occurred in Mexico which subsequently developed into a serious condition of affairs, but except for interference with the operation of the

## THE RAILROADS OF MEXICO

railway to prevent the movement of troops, very little trouble has been caused to this company." Conditions in 1911 are thus described:

"Political disturbances continued during the greater part of the year, although there was a temporary cessation for a few months after the victory of the revolutionists headed by Francisco Madero, who was then elected President of the Republic. The company suffered little physical loss or damages from these troubles, although a serious loss of revenue resulted, due to the interference with the operations of the railway and lumber business. . . . The interruptions to railway traffic were frequent, and lasted in many cases for days at a time."

The fact that neither the Mexico North Western nor the Interoceanic has issued any reports for succeeding years is of itself sufficient evidence that conditions became worse rather than better. As to the experience of the Southern Pacific of Mexico in 1910-11, we have this report:

"The revolutionary movement in the Republic of Mexico. . . did not extend to the Company's lines in the State of Sinaloa until April, 1911. The bridges and trestles then destroyed were replaced, but during the month of May the interruption from this cause became so frequent that the traffic over the line was practically suspended. . . . The bridges and structures destroyed were replaced and traffic was resumed on the 13th day of June following."

In 1912-13 the situation was described as follows:

The Southern Pacific Railroad Company of Mexico during the year continued to suffer from revolutionary disturbances. Not only were structures and equipment destroyed, but business was practically suspended and development of prospective

## OPERATION UNDER DIFFICULTIES

traffic retarded." Similar statements appear in the reports for the three succeeding years:

The Southern Pacific experience was further described in October, 1914 by a vice-president:

"In the 20 months since February, 1912 when the second of recent Mexican revolutions was started, the Southern Pacific of Mexico has been in full operation only six months. During the other fourteen months from 10 per cent to 80 per cent of the mileage has been out of commission at various times and in various places. At first the officials, who are all Americans, and the employees who are nearly 90 per cent Mexicans, strained every nerve to crib bridges and to resume traffic. As time wore on, however, all reserve energy has naturally been dissipated, the abnormal has become the normal, and the exceptional has lapsed into the routine. A train despatcher is not startled if his wire suddenly goes down before the orders are completed. He knows from experience that the wire may not come up until perhaps tomorrow, next week, or mayhap next month or next year. Occasionally the attacking band will take possession of the locomotive and burn some or all of the cars in the train. Usually, however, in the course of a week or two the wire comes up and a conductor asks for running orders from an office many miles from where last located. . . .

"In May, 1912, after operation of the Sinaloa division had been suspended for over three weeks, it was deemed advisable to move all obtainable equipment north to Empalme, Sonora, near Guaymas. . . . Regular traffic was not resumed for several weeks. Meantime a cruiser train was put on. Passengers rode in the caboose. No cars were left at stations, but freight offered was loaded in empties in the train. After cruising all day, the train tied wherever night overtook it.



## THE RAILROADS OF MEXICO

The danger of encountering a hole instead of a bridge precludes much night running in times like these."<sup>10</sup>

Early in 1920 the Mexican press was giving attention to the possibility of the resumption of operation on the line south of Acapometa.

The operation of the Kansas City, Mexico, and Orient has been irregular for years, and this can be said also of many other lines. The Mexican Northern was inactive from April 1913 to January 1915. During 1917 the Vera Cruz and Isthmus was out of operation, and the only connection between the National Railways and the Tehuantepec line was by boat from Vera Cruz to Puerto Mexico.

Enough has been said to indicate that railroading in Mexico has been a hazardous pursuit for a decade. Within the last few years there has been considerable improvement, but conditions are still far from normal. Indeed, we were recently told by a former United States consul-general "In all Mexico there is just one railroad line that is open. It runs from Laredo, Tex. to Mexico City." This statement may be subject to exception, but equally extreme are the statements of those who would have us believe that at their best conditions of operation in Mexico to-day are other than chaotic.

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<sup>10</sup> Hine, as above, 702-3.

## CHAPTER VI

### SERVICE

**I**N normal times the railroads of Mexico gave satisfactory freight service; now they give such service as they can. Shipments in less than car lots are not desired, and such traffic is generally handled through the express or parcel post services and at high rates.

Various causes have contributed to this result. The use of roundabout routes is often necessary, and the movement of trains is generally confined to daylight hours. The condition of the roadway and bridges is such as to reduce speed and to cause frequent accidents. A disorganized railroad personnel has also been in part responsible for poor service and for train wrecks. But the greatest cause is lack of motive power and rolling stock. In addition to the large amount of equipment destroyed, there were in 1919 about 5000 cars laid up for repairs as well as several hundred locomotives. Repairs have been delayed on account of the difficulty of obtaining materials from the United States, although vigorous attempts have been made to do all that could be done in the shops within the country.

Shortage of equipment has given rise to a system of graft in connection with the obtaining of cars and the forwarding of cars that have been received and presented for shipment. Of this system there are reports from enough different sources to give them credibility. The following will serve as samples:

“Gratification to railroad employees and Government officials in order to be permitted to operate has now become a

## THE RAILROADS OF MEXICO

fixed expensé. This is necessary in order that these people may live, for while the Government collects all freight and taxes in gold, all railroad and Government employees are paid in 'flat' paper money, and the business interests must make up the difference.<sup>1</sup>

"Take the Carranza run railways for instance. The merchant who wants to ship a carload must first pay the superintendent of the road up to six thousand bilimbiques before he will be able to get a car. Then the yard master must be tipped about two hundred bilimbiques to move the car. Then the agent of the merchant must follow up the road—the trains run only in daylight these days—and watch for the car on the sidings. If it has been cut out, he must pay another local patriot to get the car attached to another train. And so he follows it on to its destination. Thus the merchant through tips and graft pays the railroad more than ever before."<sup>2</sup>

That these statements are not exaggerated is evident from the testimony of Mexicans themselves:

"Some of the most detestable abuses committed on our railroad lines can be prevented by the Department of Communications issuing strict injunctions to the railroad men under no circumstances whatsoever to change the order in which freight cars shall be furnished to merchants. . . . The regulative circular should be made applicable to engine drivers and to all other employees of the railroads, who, when not given gratuities or tips, abandon the trains on the road. . . . It is absolutely necessary that the merchants . . . should strictly abstain from offering tips. . . .

"There are two marked defects in the railroad service at

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<sup>1</sup> Memorandum submitted on behalf of forty-five companies to the American-Mexican Commission, September, 1916:15-16.

<sup>2</sup> Whitney, *What's the matter with Mexico?* 150-51 (1916).

## SERVICE

present. The want of efficiency on the part of the employees to improve the service and the want of impartiality in the distribution of cars. . . .

"A great many thefts are now being committed in the railroad transportation of merchandise from one city to another in the Republic, and in order to be able to obtain empty cars it is necessary to deal out undue gratuities. . . . Such proceedings are highly immoral. . . . It is absolutely necessary therefore to moralize the personnel of the railroads and to recommend that merchants refrain from offering gratuities in order to be served preferentially in the transportation of their merchandise. . . .

"Merchants are compelled to give gratuities, to pay tips, and to perform other immoral acts of criminal complicity; otherwise they cannot get their goods transported to their destination. Merchants on a small scale, who are unable to pay such gratuities, ship their goods by express and thereby suffer a loss of at least 50 per cent, of which they are arbitrarily robbed. . . . Merchants make no complaint for fear of being persecuted. . . . The functionaries now in charge of our National lines are altogether lacking in competence and are absolutely void of honesty and patriotism.'"

In this connection it must be borne in mind that the element of graft is not wholly absent in other countries; and there is evidence that when a car is once obtained and presented for shipment the payment of gratuities to keep it in motion is becoming less and less necessary.

One of the reasons for the scarcity of cars in Mexico has been the refusal of the companies in the United States to allow their equipment to go over the border. Thus when in the summer

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\* First National Congress of Merchants, Summary of transactions and proceedings, 1917:69, 101, 103.

## THE RAILROADS OF MEXICO

of 1914 arrangements were made between the National Railways of Mexico and the Texas and Pacific, the International and Great Northern, and the St. Louis, Iron Mountain, and Southern for an interchange of traffic, it was required that all freight in both directions be transferred in the International and Great Northern yards at Laredo. Late in 1915 arrangements were made with the Southern Pacific for through service through Eagle Pass and with the above mentioned companies for through service to Laredo. Six months later, however, the American lines were refusing to permit freight cars to cross into Mexico on account of heavy losses of equipment. It was not until January 1, 1921 that free interchange of cars over the international boundary was reestablished.

In the course of an interview published in June, 1917, in a Mexican newspaper, the general manager of the Constitutionalist Railways said:

"Neither the Government nor the Constitutionalist Railways can solve the problem in this economic crisis. The only recourse is that agriculturists, men interested in industries, and business men shall acquire on their own account a sufficient amount of rolling stock to haul away their products under terms providing that such rolling stock shall be the property of the Government lines after they shall have paid for it."

The charge has been made by Americans interested in corporations in Mexico that railroad officers have adopted the policy of refusing cars to American corporations with the idea of forcing them to bring cars for their use from north of the border, but certainly not all American corporations have been coerced in this manner.

On their own initiative several American corporations have purchased cars in the United States which had been discarded

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\* "El Pueblo," June 12, 1917.

## SERVICE

because they were too small to conform to the standards considered necessary for economical operation. Some of these cars were obtained from the New York, New Haven, and Hartford The American Smelting and Refining company and the American Metals company each have several hundred cars and many locomotives. Smaller companies like the Cusiuhirichic Mining company and the Tezuitlan Copper company also own their own railroad equipment; and many other industrial concerns, haciendados, and even commercial houses have adopted the practice. There are now ninety-eight locomotives and 2446 freight cars held in private ownership.<sup>5</sup> In 1919 it was announced that the operation of private equipment would be prohibited as soon as the railroads obtain an adequate supply, but there is no immediate prospect of such action.

The contracts between the railroad and the owners of private equipment are of two sorts, differing mainly in the provisions as to ownership at the expiration of the agreement. They generally provide that the railroad shall bear the cost of labor, fuel, and water, and all operating expenses, and that the owners shall keep the equipment in repair and pay the regular transportation charges. The term is two years. All contracts contain provisions to the effect that engines shall be used to full capacity, and that if the number of loaded cars presented for shipment is not sufficient to tax the hauling capacity of the locomotive to within 15 per cent of its limit, the railroad officers may attach other cars, charging therefor rates 25 per cent in excess of the regular tariff. This is a measure of economy, and it is of advantage to the small shipper in that it makes it possible to move his products.

These contracts put heavy burdens upon the owners of

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<sup>5</sup> De la Huerta, "Informe presidencial," Sept. 1, 1920:51.

## THE RAILROADS OF MEXICO

equipment in the form of wages of extra personnel, interest on the investment, and repairs, but they provide the only means of moving freight without delay. The advantage to the railroads in the form of full rates for partial service and extra rates for full service is obvious.

There is another type of contract under which private individuals repair cars at their own expense, receiving in return a reimbursement to the amount of half their outlay and an exclusive right to the use of the cars thus repaired for one year, during which time they pay full freight charges.

The unsatisfactory nature of railroad service was one of the topics of discussion at the First National Congress of Merchants held in Mexico City in July, 1917, and the following resolutions set forth the opinion of responsible Mexicans as to the situation and its remedy:

“Resolved: that the First National Congress of Merchants shall ask the Government to endeavor that the following measures be instituted. . . for the purpose of remedying the shortage of rolling stock and of reducing freight charges:—

“I.—*Measures for remedying the shortage of rolling stock.*

“1st. To urge shippers to load cars to their full capacity.

“2nd. To urge consignors and consignees to employ the least possible time in loading and unloading cars, for which purpose the railroad should establish a service through which due notice shall be sent the consignee of the arrival of cars, the party interested having previously given his address.

“3rd. To urge the railroads to have local freight cars (with the exception of cars loaded to their full capacity) loaded to their full cubic capacity; for which purpose they should appoint inspectors to see that their orders are carried out.

## SERVICE

"4th. Cars repaired at the expense of private parties shall be handled by the railroads themselves.

"5th. Private car owners wishing to avoid the expense of hauling empty cars should permit the railroads to handle their cars.

### "II. *Measures tending to reduce freight charges.*

"1st. To allow 10 per cent discount on freight in excess of the minimum weight or on any excess over the minimum in cars loaded to full capacity, when those cars are loaded within their capacity with a weight greater than the minimum fixed by the circulars.

"2nd. Express rates on the car loads should be modified so as to make them more equitable, those now in force being relatively high.

"3rd. To abolish as immoral the surcharge of 25 per cent on freight charges, which certain railroads have established for the preferential granting of cars.

"4th. Freight charges should be applicable to documentary express shipments if goods are not delivered to the consignee within five days from the date on which they are due to arrive at their destination, according to the passenger schedule, cases of *force majeure* being of course excepted.

"5th. To abolish the system of embargo such as is now in use on the Mexican Railway under which shippers are forbidden to ship goods by freight, and compelled to have their goods receipted and forwarded by express.

"6th. The 'Railroad rules and regulations' on car traffic, establishing a preference in the assignment of cars for cattle, fruit, and articles of prime necessity, and in general of things which easily decay, should be strictly observed. If this were done many shippers could avoid



## THE RAILROADS OF MEXICO

. . . forwarding their goods by express, as they would have a right to preference in regard to cars and traffic.

"7th. The circular relative to special freight trains should be amended, so as to provide that the railroad may require a minimum of 250 tons from each consignor to each consignee as a prerequisite to the furnishing of special train service; and the existing rate for such service—\$2.00 per kilometer per locomotive in case the rolling stock is the property of the company and \$1.00 per kilometer per locomotive in case it is private property—should be revoked.

"8th. To prohibit the operation of private shipping companies within the railroads; express companies excepted.\*

"9th. To ask the National Railways to make such preparation as may be necessary so that, as soon as they again receive control of their lines, they may reestablish through service with the United States and thus give the public the benefit of through rates.

"10th. To revoke, if it has not already been done, the order under which the railroads shall take possession of all cars belonging to private concerns.

"11th. To call through the Department of Industry and Commerce a meeting of railroad representatives, whereat shall be present delegates from the Congress of Merchants and experts to be appointed by the Department,

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\* This would seem to substantiate the report that two forwarding companies had been organized by persons high in government circles, which were operating in harmony with the railroad administration. It is said that when a prospective shipper applied to the railroad for cars, his application was likely to be unsuccessful. A representative of one of these companies would then offer to furnish the needed equipment. If the products were of a perishable nature or if the shipper were in urgent need of money, there was no alternative but to accept the onerous terms. By this method the companies profited not only through their service charges, but also through their control over the merchandise itself.

## SERVICE

to consider what methods will be most beneficial to the interests of all parties concerned. . . .

“Resolved: that the First National Congress submit:—

“1st. That the Executive of the Union instruct the Management of the Constitutionalist Railways that, as long as the rolling stock controlled by them is inadequate for their own needs, they shall accept privately-owned cars, and provide for the purchase thereof by reserving for that purpose 10 per cent of the amounts collected for freight.

“2nd. To order the strict enforcement of existing regulations relative to the receipt, shipment, and re-shipment of merchandise; to the order in which the cars shall be furnished; to the aggregate number of kilometers to be covered daily; and also to order that freight rates shall be in conformity with the regular tariff.

“3rd. That it grant legal capacity to the Chambers of Commerce already established, and to the delegations from the said Chambers; and that it authorizes them to see to it that the railroad rules and regulations are strictly complied with, especially regarding the following points:

“A.—the receipt and re-shipment of merchandise at stations in such a manner that the available rolling stock may furnish full service;

“B.—The furnishing of cars strictly according to the order of registration of application;

“C.—The aggregate number of kilometers or the minimum kilometrage to be covered daily; especially under the regulations;

“D.—The forwarding of small freight shipments without delay;

“E.—The reporting to the Department of Industry and Commerce of all derelictions of railroad employees.

## THE RAILROADS OF MEXICO

"4th. That the Railroad Management be ordered to abolish the additional charge for hauling empty cars, also the requirement that freight payments be made in advance."

United States consuls are required to prepare annual statements of economic conditions in their districts, and in their reports for 1918 we find the following information as to railroad service:

"The railroad traffic on this [Southern Pacific] road from Nogales, Ariz., via Hermosillo and Guaymas, State of Sonora, and San Blas, Culiacan, Mazatlan, Rosario, and Acaponeta has been very satisfactory, both in the matter of passenger and freight service in so far as the regularity of trains was concerned with the exception of one delay of a few days during the late summer when a bridge was washed out. The restoration of sleeping and dining car service is under consideration by the railway officials. . . .

"Goods intended for this [Matamoros] consular district are sent by rail to the most convenient port in the United States, where they are received by the consignee and taken across the border, usually in drays; or they may be sent by steamship to Galveston, Tex., and thence by rail to the border port through which they are taken to Mexico. The St. Louis, Brownsville and Mexico Railroad connects Brownsville with Houston and Galveston. The Mexican National Railway, which connects Matamoros with Tampico via Monterey, is not deemed a practicable route at present for goods consigned to this district from the United States. . . .

"The lack of adequate rolling stock and the bad condition of the available motive power has made it impossible to meet the demands in railway traffic, and this has been one of the chief impediments to economic progress in the district."

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<sup>7</sup> First National Congress, as above, 140-2.

<sup>8</sup> "Commerce Reports," 1919, sup. 82c, 12, 15, 22.

## SERVICE

"There was no interchange of cars between Mexican and American railways during 1918; consequently, it was necessary to transfer freight, at an added cost, either at El Paso, Tex., or at Ciudad Juarez. Only upon furnishing the American railroad company with a large bond could a car be brought into this state. Passenger and freight trains were run in this [Chihuahua] district only during the daytime, greatly delaying transportation. . . .

"The Mexican National Railways, operated by the Government, afford daily passenger service south from the international border at this point, through Chihuahua, the capital of the state, to Mexico City, although most people prefer to make the journey by way of Laredo or Eagle Pass, Tex. The other railroad running from this city [Juarez] is the Mexico Northwestern, operated by a Canadian corporation and primarily built to transport to the United States lumber produced at Pearson. The company carries a few passengers by a mixed train once or twice a week. This railroad originally extended beyond the lumber mill and thence to Chihuahua City, but through travel to the latter point has been discontinued in recent years and is not likely to be resumed until more capital is available and conditions are safer. . . .

"The Southern Pacific de Mexico Railroad is the only line of any consequence operating in Nogales. This road runs tri-weekly trains from Nogales to Guaymas, a distance of 245 miles. The same system operates a branch line running tri-weekly trains from Nogales to Naco via Cananea, a distance of 120 miles. The Nacozari Railroad runs trains from Agua Prieta to Pílares, Sonora, a distance of 65 miles. These are the only railroads in the district. The property of both

## THE RAILROADS OF MEXICO

these companies has greatly deteriorated, owing to the fact that they have been compelled on several occasions to withdraw all trains and practically abandon their roadbed. All of the bridges on these two railways have been destroyed, and all rolling stock, the roadbed, terminals, and buildings will have to be renewed at an early period if the roads are to continue to operate. . . .

“Transportation facilities in this [Piedras Negras] district, as well as in all northern Mexico, have been hampered by the lack of motive power, thus greatly reducing commercial activity in the Republic. It has been possible for business to be kept in operation only by the running of privately owned trains, of which there are about 27 in Mexico.

“The freight rates have been increased, the revenues being collected on a Mexican gold basis, but as no part thereof is devoted to a sinking fund for the payment of interest on bonds, capital, and improvements, the revenue from the railroads has been used in the payment of the general Government expenses, leaving nothing over the operating expenses for the improvement of the roadbeds or the rolling stock. As a consequence, rolling stock, tracks, and bridges are in urgent need of improvement and repairs.

“At the present time there are 421 engines in the service of the Mexican railroads, not including privately owned engines being operated under the supervision of the Railroad Management, making them a part of the system. It is due to these privately owned locomotives that it is possible to handle the major part of the freight. . . .

“The most serious obstacle to be overcome in the resumption of trade is the lack of transportation facilities, as there has been no upkeep of railway lines and equipment. At the end of 1918 there were actually but three passenger and two

## SERVICE

freight locomotives on the San Luis Potosi division of the line from Mexico City to the United States border, a distance of 375 miles, extending from Gonzales to Saltillo. For reliable service shippers are dependent on private trains. From the American border to San Luis Potosi, a distance of 475 miles, freight coming by private trains takes about ten days. By the regular Government service it takes from one to three months. But even the private trains are irregular and infrequent. Shippers by private trains pay the regular Government rate and 50 per cent additional. As freight is not received on private trains in less than carload lots, shippers of smaller quantities who require regular, quick service must ship by express or pay insurance. Freight insured against loss reaches San Luis Potosi from the American border in a week's time; by express the time is about the same. There are special express trains leaving New Laredo for Mexican points twice a week.\*

Better conditions were reported in 1919:

"The salient factor of industrial progress in Mexico was the sufficient restraint of banditry throughout the Republic to permit a general return to industry, except in limited areas. In no part of the country did the outlaws extend their operations, their depredations being limited to raids. Railway lines previously in regular operation have been maintained, subject to less and less interruption, and regular service has been resumed on lines where service had been suspended or subject to frequent interruption. . . .

"The most important railway line upon which service was maintained with regularity throughout the year 1919 was that from Mexico City to New Laredo, passing through the important cities of Querétaro, San Luis Potosi, Saltillo, and

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\* Ibid., 1919, sup. 32a, 3-4, 6, 8, 10, 16.

## THE RAILROADS OF MEXICO

Monterey. Trains were attacked by bandits on this line, generally in one locality, in the northern part of the State of San Luis Potosi and the southern part of the State of Coahuila. But these attacks resulted in nothing more than the delay of trains. Bandits did not occupy the line, nor even remain to follow up their attacks. Passenger trains on this part of the line are protected by guards, and run only in daytime. Interference with traffic on this line has steadily diminished.

“Train service on the line from Tampico to San Luis Potosi, which had been entirely suspended during the revolutionary troubles until the latter part of 1917, was resumed by degrees in 1918, two trains a week running half the distance a day and making the entire run in two days. Throughout 1919 there were trains daily making the run in twelve hours. Although this line was subject to bandit attacks of a serious nature, communication was steadily maintained and traffic was as heavy as the rolling stock available could handle. The bandits along this line were kept back sufficiently to permit a general resumption of agricultural pursuits within easy reach of the railroad. The lines westward to Guadalajara from Mexico City and points farther north connecting with San Luis Potosi and Aguascalientes, were generally free from interruption. One of the lines between Mexico City and Vera Cruz was in continuous operation, subject to infrequent attacks.

“The most important railway line to be seriously interfered with by bandits during 1919 was the line from Mexico City to Ciudad Juarez, opposite El Paso, passing through Aguascalientes, Zacatecas, Torreon, and Chihuahua, with connection to Durango. During the year protection was steadily extended to the territory served by this line, so that

## SERVICE

by the close of the year a through service of passenger trains was organized from Mexico City to Ciudad Juarez. This service is now (March, 1920) in regular operation, but its success has been set back recently by one of the worst attacks yet made by bandits. . . .

"Commerce and industry were seriously retarded throughout 1919 by deterioration and lack of upkeep of railroad equipment, and, in the north, by damages from floods. . . .

"The railways [in Yucatan] remained under the indirect control of the Comision Reguladora subject to the final liquidation of that institution. The trackage and equipment received reasonable maintenance, considerable new equipment was added, a storage battery electric car service was established between Progreso and Merida, but no extensions were planned or made. . . .

"Saltillo is important as a railroad center. It has two direct connections with the United States, one via Paredon, Anhele, Reata, and Monclova to Eagle Pass, Tex., the other via Monterey to Laredo, Tex. Both of these lines have daily trains both ways, the Laredo connection operating Pullmans and having through trains to Mexico City.

"From Saltillo westward a tri-weekly train connects with Torreon and Gomez Palacio over what used to be the Coahuila and Pacifico Railway. This road is in rather bad condition. This line brings cotton to Saltillo from the Laguna district, handling also the vineyard products of the Parras section, and the wheat, corn, and beans around General Cepeda.

"A line via Paredon, Saucedo, Brisa, Venus, and San Pedro Colonia connects Monterey with the Laguna district, passing through a section of comparatively unimportant cultivation. There are daily trains on this road which usually



## THE RAILROADS OF MEXICO

connect with the Saltillo-Eagle Pass train at Paredon. This was the old Mexican Central line. The line from Reata to Saucedá via Trevino, running through a valley between mountain ranges, is in use for freight traffic only. There is a line from Saltillo to Arteaga. All of the above lines belong to the Mexican National Railways. The renewals are the repairs most needed.

"From Saltillo southward the Coahuila and Zacatecas, belonging to the Mazapil Copper Co., runs to Concepcion del Oro in Zacatecas, with a branch at Avalos westward to the mining town of San Pedro Ocampo. There are daily trains on this line and it is in good condition. The Coahuila and Zacatecas has completely equipped shops and roundhouse at Saltillo. . . .

"There are four railways running out of Vera Cruz, two of which are trunk lines to Mexico City, one a short line to Alvarado, and the fourth running to the Isthmus of Tehuantepec. The only one of these operating with any sort of regularity is the road to Mexico City."<sup>10</sup>

Early in 1919 the general manager of the National Railways issued a statement which gave information as to traffic conditions on the lines controlled by the government:

"To pretend that railroad service in Mexico is given with the accommodation of former days would be a statement devoid of reflection. Many passenger coaches are lacking in the usual interior equipment; in some the window glass is broken, in many the seats are worn out, and it is impossible to get prompt repairs. Coaches which have been used in the military service are in a dilapidated condition. Train schedules are difficult to maintain, as precautions have to be taken

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<sup>10</sup> Ibid., 1920, sup. 35a, 1-2, 16, 22, 24.

## SERVICE

against rebel bands. Generally speaking, however, the service is normal and accidents are not frequent.

"On the Interoceanic we have not been able to control the situation. The rebels have frequently torn up the rails and attacked the trains. They have been very bad between Puebla and Jalapa, destroying the road, thus requiring guards of 100 or more soldiers to protect each repair gang. Often we find newly repaired track again destroyed before a train can be gotten over it.

"The Mexican Central from Mexico City to La Colorada in Zacatecas may be said to be open. North of the latter point repairs of the road have been made only as the military situation would permit work to be done. Between Torreon and Chihuahua City and north of the latter place there have been frequent interruptions of that line by Villa rebels.

"On the Mexican Central gulf line, which runs from Monterey to Tampico, the roadbed is in bad condition, and repair work has been effected only with great difficulty. That is on account of the scarcity of laborers and danger from rebels which infest that section. A tri-weekly service is maintained, however. Also tri-weekly trains are run each way between San Luis Potosi and Tampico."<sup>11</sup>

Of passenger service there is little to be said. One through train a day in either direction is the rule. Night service is offered on but few lines because of the risk and also because of the shortage of sleeping cars. Some cars of British make are available and some Pullmans; and these are used on the Mexican railway and on the main lines of the old Mexican National and Mexican Central. Pullman service was resumed between Torreon and Juarez on January 1, 1920, after several years' suspension. Through Pullman service between

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<sup>11</sup> "Railway Age," LXVI, 470 (1919).

## THE RAILROADS OF MEXICO

Tampico and the City of Mexico was reestablished December 1, 1920.

Ordinary passenger equipment is scarce, and there have been times when box cars and even steel gondola cars have been used in passenger service.

Train wrecks have been frequent in Mexico during the last few years. The substitution of Mexican engineers for trained Americans and other foreigners introduced an element of risk; and the demoralization of personnel as the result of the long period of unrest has increased the number of wrecks that are due to simple carelessness. Military operation has also been productive of wrecks. The poor condition of tracks and locomotives and the temporary nature of many of the bridges also tend to increase the hazard of normal railroad operation.

The activity of bandits is not a new feature in Mexico. There have always been train hold-ups, as there have been in the United States. In Mexico, however, the traveler runs a risk of losing his life as well as his valuables. On February 7, 1914, at Madera on the line of the Mexico North Western, a freight train was held up by bandits, and the crew compelled to back it into a tunnel where it was set on fire. An approaching passenger train collided with the burning cars, and the death of the passengers and the destruction of the tunnel was the result. On September 24, 1915, a Southern Pacific passenger train was burned at Torres by a band of Yaqui Indians, and eighty passengers who were forced to remain in the cars were killed.

For the protection of trains, detachments of troops are now stationed along the lines, and regular trains are preceded by "exploring" trains in the nature of a convoy. In many cases

## SERVICE

special troop cars are attached to regular trains. Even these precautions are not always sufficient. On May 27, 1918, bandits wrecked a passenger train at Las Olas and killed the train guard and several passengers. On August 10, 1918, twenty-six passengers and forty soldiers were killed by bandits at Consuelo.

Early in 1919 a Mexican cabinet minister gave out a statement calculated to reassure those who had read dispatches telling of attacks on railroad trains. In this he said:

"I am aware that many persons in the United States are misinformed about the real conditions in Mexico. They hear that a train has been blown up or a bridge has been burned. Perhaps life has been lost.

"Take the railroad from Mexico City to Vera Cruz, the line from San Luis to Tampico, or that on the Isthmus of Tehuantepec, to Salina Cruz. These railroads cross a country densely wooded. Two or three men can approach to within ten or fifteen yards of the railroad track with no one aware of their presence. They can easily reach, place a bomb, and the train when it passes is blown up.

"When the people of the United States read of this they think Mexico is not settled and pass judgment on the whole country. They do not know that those bandits or train wreckers exist mainly due to topographical conditions. In rugged mountains and in practically trackless forest they have their hiding places and it is almost impossible to pick up their trail once they have disappeared. They are in small groups, and eventually must succumb to the law."<sup>12</sup>

There is no doubt that the Mexican government has exerted itself to avert this danger. It has constructed block houses along the line of the Mexican railway and on sections

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<sup>12</sup> Ibid., LXVI, 518 (1919).

## THE RAILROADS OF MEXICO

of the Interoceanic and the Vera Cruz and Isthmus. It has also obtained armored cars from American shops and converted steel gondola cars to military use, but the outrages continue. Indeed, despite the censorship, Mexican newspapers reported seventy-two railroad attacks and suspensions in eighteen states between April 10 and July 31, 1919.<sup>1\*</sup>

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<sup>1\*</sup> U. S. Senate Committee on Foreign Relations, Hearings before a subcommittee on the matter of outrages on citizens of the United States in Mexico, 715-25 (1919).

## CHAPTER VII

### THE CLAIMS OF INVESTORS

SOMETHING has been said in earlier chapters as to the claims of railroad corporations against the Mexican government on account of destruction or seizure of property. There are also intercorporate claims which need not be considered here. It remains to consider the claims of security holders against the corporations themselves; claims which the corporations can pay only as they may be able to recover from the government. These claims are of two sorts. Secured creditors—holders of receivers' certificates, bonds or debentures, and secured notes—have preferred claims to the amount of the principal of their holdings and of the arrears of interest thereon; claims which in some cases are guaranteed by the Mexican government. Holders of unsecured notes or certificates of indebtedness and of income bonds have claims which are next in rank. And shareholders have claims to any surplus, whether applied to betterments or distributed in the form of dividends. In the pages that follow are set forth some of the salient facts as to the claims of investors, the principal sums involved, and the extent to which interest and dividend-payments have been made.

The outstanding share capital of the National Railways of Mexico on June 30, 1919, amounted to 448,148,917 pesos, of which 149,606,933 pesos was represented by common shares, 57,662,000 pesos by first preferred shares, and 240,879,983 pesos by second preferred shares. Dividends were paid on the first preferred shares through 1913. The secured debt,

## THE RAILROADS OF MEXICO

direct and assumed, was 474,415,556 pesos, distributed as follows:

Bonds:	Pesos
Prior Lien 4½s	169,608,230
General 4s (guaranteed principal and interest by Mexican gov- ernment)	101,497,150
N. R. R. Prior Lien 4½s	46,000,000
N. R. R. First Consolidated 4s	49,480,000
M. Int. R. R. Prior Lien 4s	11,700,000
M. Int. R. R. First Consolidated 4s	8,413,000
V. C. and P. R. R. First 4½s	14,000,000
P.-A. R. R. First 5s	4,006,000
P.-A. R. R. General 5s	2,968,000
M. C. Ry. Equipment and Collateral 5s	900,000
M. C. Ry. Car and Locomotive Rental Notes	1,324,913
Secured Notes:	
Two-yr. 6% (due June 1, 1915)	53,460,000
Three-yr. 6% (due Jan. 1, 1917)	4,920,650
Series B, 6% (due Jan. 1, 1917)	3,019,504
Series C, 6% (due Jan. 1, 1917)	1,626,109
Three-mo. 6% (due June 1, 1915)	1,492,000

The company was also liable for the payment of principal and interest charges on the securities of the old Mexican Central railway which had not been presented for conversion, of which there were outstanding on June 30, 1919, a total of 3,056,845 pesos. It was further liable to the amount of 651,200 pesos, representing shares of the Mexican Central, Mexican National, and Mexican International still in the hands of the public.

According to the balance sheet as of June 30, 1919, the

## THE CLAIMS OF INVESTORS

company was indebted for interest on bonds and notes 95,481,000 pesos, for secured notes payable 64,518,263 pesos (as above), for unsecured notes 2,806,000 pesos, and for accounts payable 16,025,552 pesos. The five issues of secured notes represent obligations incurred in 1913 and 1914 to provide for interest charges prior to October 1, 1914, while the unsecured notes were issued in connection with the purchase of Pan-American railroad notes.

The finances of two of the subsidiary companies, the Michoacan and Pacific and the Interoceanic, are reported separately. The Michoacan and Pacific railway, a leased line of the National Railways, has a share capital of £60,000. It also has a funded debt of £75,100, of which £15,100 are Prior Lien Debenture 6s and £60,000 Registered Debenture 6s. Interest on the former was last paid in July, 1903, and on the latter in July, 1914. The amount of interest due on December 31, 1916, was £50,865.

The National Railways of Mexico controls the Interoceanic railway through ownership of about £2,500,000 of its capital issues. The share capital of the Interoceanic amounts to £4,100,000, of which £1,700,000 is ordinary stock, £1,400,000 non-cumulative first preference 5 per cent stock, and £1,000,000, non-cumulative second preference 4 per cent stock. The secured debt is £2,919,459, represented by £1,150,000 Debenture 4s, £1,300,000 Second Debenture 4½s, and £469,459 Series "B" Debenture 7s. Dividends were paid on the first preference shares in 1913 and on the second preference shares in November, 1912. No interest has been paid since 1913 on the Debenture 7s, which are contingent upon earnings. Deferred warrants, bearing 5 per cent interest, have been issued in lieu of interest payments on the Debenture 4½s since 1914 and on the Debenture 4s since 1915 under



## THE RAILROADS OF MEXICO

a moratorium granted by the debenture holders and extending to May 29, 1922. As of June 30, 1918, the company had an unfavorable balance "net revenue account" to the extent of £1,034,801.

The Interoceanic railway controls the Mexican Eastern railway through ownership of its entire capital stock of £10,000. Interest payments due since June 15, 1914, on the outstanding £400,000 debentures have been made in the form of 5 per cent certificates of indebtedness, under a moratorium agreement that was last extended to May 29, 1922.

The Mexican Southern railway, operated by the Interoceanic under a lease, has a share capital of £1,000,000, on which dividends were paid in 1913. There is also an issue of £861,775 Debenture 4s, on which 5 per cent certificates have been issued since 1915 in lieu of interest. As no rentals were received after June 30, 1914, the moratorium was extended to April 27, 1920. Further information is lacking.

Both the National Railways and the Interoceanic are interested in the Vera Cruz Terminal Company. Control of the Vera Cruz Terminal is represented by shares to the amount of £90 held by the Mexican, Interoceanic, Vera Cruz and Isthmus, and Vera Cruz (Mexico) railways and the Mexican government. There are £1,080,000 in bonds outstanding, of which £992,500 are Debenture 4½s, and £87,500, Second Debenture 5s. Interest is guaranteed by the four railroads using the property, but no payments have been made since July 15, 1915.

Many of the smaller independent railroads in Mexico are owned by mining interests, and their finances if reported have no general interest. Information as to the more important of the independent companies is given below:

The Southern Pacific Railroad of Mexico has no bonded

## THE CLAIMS OF INVESTORS

debt. Its entire capital stock, \$75,000,000, is owned by the Southern Pacific company, to which it was indebted for advances, largely for construction, and for accrued interest thereon to December 31, 1919, to the amount of \$77,089,563.

The Mexico North Western railway has a share capital of \$25,000,000, upon which no dividends have ever been paid. Its outstanding bonds amount to £8,021,000, divided into three classes: Prior Lien 5s, £1,671,000; First 5s, £5,600,000, and Cumulative Convertible Income 6s, £750,000. The Income bonds were issued July 1, 1912, and no interest has been paid on them. The Prior Lien bonds, issued in 1913 and 1914, have been in default as to interest since September 1, 1914; and the interest on the First 5s has been unpaid since March, 1913. Receivers' certificates to the amount of \$400,000 were outstanding at the end of 1920.

The Mexican railway has three classes of shares outstanding, the total being £5,820,760. They are as follows: ordinary, £2,254,720: first preference 8%, £2,554,100; and second preference 6%, £1,011,960. No dividends have been paid since 1915. The funded debt amounts to £2,480,700, of which £2,000,000 are Perpetual Debentures, and £477,400 Second Debentures. Interest payments since 1914 have been deferred under moratoria which have been extended respectively to January 1, 1922, and April 1, 1922. The amount of deferred interest certificates outstanding on January 1, 1920, was £805,820.

That part of the Kansas City, Mexico, and Orient railway located in Mexico was placed in the hands of receivers in March, 1912, as an incident to the receivership of the line in the United States. It was not included in the unsuccessful plan of reorganization of the latter in 1913, and no information has been made public as to its finances.

## THE RAILROADS OF MEXICO

The Mexican Northern railway has a share capital of \$3,000,000, the latest dividend on which was paid in 1913. Its bonded debt is \$677,000. Interest payments have been regularly made, but the sinking fund has not been operative since 1913.

The Parral and Durango railroad's share capital is \$1,000,000, and it has outstanding \$574,000 in General 6 per cent bonds. No dividends have been paid on the shares and no reports have been made public since 1915. Under an agreement with the bondholders, sinking fund payments on the bonds were suspended for a five-year period ending January 1, 1921, the term of the bonds being extending correspondingly.

The share capital of the United Railways of Yucatan is 23,000,000 pesos. There is outstanding £825,000 First 5s, interest on which was paid through April 1, 1917. The latest dividend on the shares was paid in 1912.

## CHAPTER VIII

### THE OUTLOOK

MEXICO'S railroad problem, important as it is, can hardly be solved until after the restoration of approximate economic stability in Europe; and the methods to be applied to its solution must necessarily depend upon the international situation, diplomatic and financial, then existing. To prophesy or even to anticipate would be futile. It is possible, however, to present some aspects of the situation in Mexico itself which must be considered when the time shall have arrived for decision.

In the case of the railroads which have been taken over by the government for military reasons under Article 145, Section 10, of the general railroad law of 1899, the shareholders' interest is protected by the provision in that section to the effect that "In this case the Nation shall indemnify the railroad companies. If no agreement is reached as to the amount of the indemnification, the latter shall be based on the average gross earnings in the last five years, plus ten per cent, all expenses being paid by the company." In the case of the railroads which have suffered loss or damage, the shareholders stand to recover through acts of appropriation passed by the Mexican congress. Such an act, providing 15,000,000 pesos, was passed on May 31, 1911. Furthermore, the shareholders' interest is being conserved to some extent on the railroads under government operation by the practice of appropriating revenues for the purpose of rehabilitation.

The bondholder is likewise concerned in the work of

## THE RAILROADS OF MEXICO

rehabilitation, since his equity it thereby conserved. He still has his lien, which is enforceable in the Mexican courts. The secured noteholder has the same rights in the American courts, as the collateral behind his notes is in the custody of American trustees; but as the collateral in question consists of notes of the Mexican government, his security is as good as the promise of that government to pay.

All holders of railroad securities are vitally interested in the attitude of the Mexican government and in the loan of \$150,000,000 which that government has long been desirous of obtaining in New York or London "to rehabilitate the Constitutional Railways completely and to construct new branches in districts needing them for proper development."<sup>1</sup> They wish to know of the plans of that government in the matter of returning to their owners lines no longer needed for military operation. In view of the acquisition by the nation of the full title to the Tehuantepec line, they may well be concerned as to the future of the lines which are now being operated by the government on a provisional basis.

If it is fair to judge the attitude of a government by its acts, the investor had good grounds for the belief that the Carranza government was disposed to enforce the laws in a spirit hostile to foreign interests. Thus Article 31 of the railroad law provides:

"A concession shall lapse for any of the following reasons:—

"2.—The total or partial interruption of the public service of the road, save in the case of fortuitous circumstances of *force majeure*. . . .

"3.—Failure to construct in a year the number of kilometers required by the concession or to complete the line within the period of time allowed by said concession."

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<sup>1</sup> "Mexican Review," April, 1918; "Economist," LXXXVIII, 209 (1919).

## THE OUTLOOK

Despite the protection afforded by the law in its definition of "force majeure", threats were made to seize Mexico North Western and the Alamos branch of the Southern Pacific for failure to resume operation on lines which had been injured by forces which the government itself could not control. And in July 1918 the government declared its intention of forfeiting the concession of the Southern Pacific for failure to complete the construction of its line to Guadalajara and Mexico City.

There was also cause for concern in the proposed revision of the railroad laws and regulations as recommended by the commission appointed for that purpose by the Secretary of Communications and Public Works in 1917. The recommendations of this commission have not yet been published, but according to report it was proposed "to withdraw every kind of subvention hitherto enjoyed by the railroads under long-existent guarantees, and at the same time to impose certain new regulations and restrictions framed entirely in favor of the National Treasury and the travelling public, but destined to act prejudicially to the companies." Upon one point the investor may be confident: that his property will not be "commandeered in the interest of the common good," if the Mexican constitution means what it says. Article 27 along with its drastic provisions declares:

"Private property shall not be expropriated except for reasons of public utility and by means of indemnification."

The attitude of the Mexican people is no less important; and to the extent that it was expressed before the downfall of Carranza it was hostile to the interest of the foreign investor. Thus at a meeting of railroad employees held in Mexico City on October 17, 1914, it was proposed that all members of the

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\* "Economist," LXXXV, 528.

## THE RAILROADS OF MEXICO

Union of Railway Employees contribute one day's wages each month to a fund to be used to purchase the shares held by foreigners. That such contribution would be inadequate was acknowledged, and it was further proposed "to obtain additions from other sources," not specified, in order "to put the plan in effect at the earliest possible time."<sup>\*</sup> That the only way to obtain sufficient funds to make this possible would be to borrow from foreign interests does not seem to have occurred to the men who would thus easily effect the complete "Mexicanization" of the railroads in the country.

A further suggestion along this line has been made by Fernando Gonzales Roa, who has been a member of the board of directors of the National Railways since October 1914.

"The independence of our railroad system depends, as it is only logical to suppose, upon our political situation. We must always keep in mind the great interests of the North Americans, and we must never take our eyes off them. If we take from our Northern neighbors methods, examples, railroad employees, tools, machines and capital, we shall fatally weaken our railroad organization.

"All our hopes and our strength must be directed toward the substituting of our own elements for those of foreign countries, gradually and judiciously but with insistence and firmness. Perseverance in this attitude is the thing that should be the basis of our National policy. We have seen that nearly all of our resources have been pledged through trustee companies. The board of directors itself at times has had no further function than merely to validate the orders of the executive, an office for a long time held by an American serving as an agent for financial interests rather than as a functionary of a national enterprise. The reorganization of the system

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<sup>\*</sup> "Chronicle," XCIX, 1800 (1914).

## THE OUTLOOK

with a new administration policy, therefore, will be difficult, and the management of the National Lines will meet at every step with obstacles and be subjected to grave responsibilities through lack of precedents and perhaps through lack of support. . . . This difficult problem we can solve only through prudence, patriotism, and above all integrity.”“

The foreign investor can have no just basis of complaint against a policy of “Mexicanization” that is characterized by prudence, patriotism, and integrity. It is no concern of his that this policy means the supplanting of foreign employees by Mexicans, so long as his interests as shareholder or as creditor are not jeopardized. Nor need he fear the assumption of sole proprietorship by the nation so long as he can count upon just compensation. Certainly, the time is far distant when Mexico can be independent of foreign capital; though it may well be that the foreign investor’s relation to the railroads of the country will be limited to that of a secured creditor, whether of the railroad companies or of the nation itself.

The situation is one of great importance to the United States. The world war has seriously affected the creditor countries of Europe, and the resumption of peace has brought with it a demand for all available capital. The United States now has the world’s greatest credit capacity, and American capital does not need to seek investment in Mexico. Instead, Mexico must bid for American capital in competition with other countries, as it did without success in 1919.

But it is necessary to bear in mind that nothing is so craven as capital. Capital seeks the protection that goes with a stable government; it requires the preservation of public order, which none but a stable government can secure, and it demands

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\* Gonzales Roa, “El problema ferrocarrilero,” 322-4 (1915).



## THE RAILROADS OF MEXICO

equitable treatment at the hands of the executive, the legislative, and the judicial branches of government. "Prudence, patriotism, and above all integrity", upon the part of the Mexican government will give rise to a situation in which these requirements can be met.

From time to time statements, apparently authoritative, were made by representatives of the Carranza government which indicated a change of attitude toward foreigners who had already invested in Mexico, but they were not followed by performance. Early in 1920 such a statement was given out at the Mexican consulate in London, only to be repudiated after the English press made a demand for substantial guarantees. Said the London Times:

"The question of financial assistance to Mexico is largely bound up with politics. Before serious steps can be taken to put her house in order effective guarantees will be required from the Government of which General Carranza is the head that it is willing and able to establish and maintain a form of government that will safeguard the interests of the foreigner. . . .

"Since the default of Mexico, six years ago, the affairs of most foreign companies operating there have got into a deplorable state. The railways have been 'nationalized' by the primitive process of Government confiscation of the properties and the revenues, and such information as can be gathered leaves too much ground for fearing that the physical condition of the lines has suffered badly from neglect, as well as from damage inflicted wantonly or from alleged 'military needs'. . .

"It may be taken as reasonably certain that if any financial assistance is to be given to Mexico it will be subject to an undertaking, backed by effective guarantees, that not only will interest arrears and current obligations on the External

## THE OUTLOOK

debt be honored, but that the railways be returned to their rightful owners, plus compensation for the damage inflicted."<sup>5</sup>

In view of the acknowledged importance of the Mexican problem, it may seem surprising that so little constructive thought has been given to the question of financial rehabilitation of the railroads, but the attention of the world has been fixed upon an issue of greater importance. After that issue was determined by the signing of the armistice, the situation was changed; and early in 1919 a refinancing plan was put forth by the late T. W. Osterheld, long a student of Mexican affairs. This plan, which was concerned only with the National system, was as follows:

"The general outline of the plan is to have the Government of Mexico transfer by contract to the National Railways of Mexico, or if it should be thought advisable, to a separate commission . . . oil, mining, and agricultural lands of a value great enough to return an income both from the initial payment made on rights granted and from the subsequent royalties from the said rights, and to take care of the interest and to create a sinking fund for all of the debts of the Government of Mexico and of the subsidiary states, and such bonds of the National Railways of Mexico as it may be deemed advisable under the circumstances to take care of.

"Under the terms of the transfer agreement the entire income from these rights should go to the Government of Mexico except so much thereof as may be necessary to pay interest or create a sinking fund on all Government and State debts, and to put the National Railways of Mexico in first-class condition as to rolling stock and roadbed, and to finance extensions of the said Railways or its branches which will be necessary to give first class service to all those who

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<sup>5</sup> "London Times," Jan. 8, 1920.

## THE RAILROADS OF MEXICO

invest their money in the rights granted in the properties turned over to the Railways by the Government, and to pay interest on such bonds of the said Railways as it shall be deemed advisable under the circumstances. . . .

“Rights will be granted in these oil, mining, and agricultural lands, to holders of any of the securities covered by this plan, which rights may be paid for by them partly in cash and partly in bonds of the Mexican Government or of the National Railways of Mexico, or any of the subsidiary States . . . in proportions, and at prices deemed advisable under the circumstances by the commission and the Mexican Government.

“The management of this plan shall be . . . under the direction of the bankers to be selected subject to the approval of the Government of Mexico, and a fixed fee and expenses shall be paid to the said bankers by the National Railways of Mexico in return for the benefits to be received by the Railways by reason of increased business and facilities. In return for the benefits which the National Railways of Mexico would receive from the transfer agreement of all properties, the National Railways of Mexico would have to agree to waive any and all claims which it had or might have against the Mexican Government by reason of damage through the recent revolution, or the taking over of the property by the Government. . .

“The commission tentatively is to consist of five bankers, acceptable to the Mexican Government as managers of both the granting of the rights and the carrying out of the terms under which the rights are granted, and five members appointed by the Government of Mexico, these ten to appoint one member as chairman.”\*

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\* Osterheld, *The debt of the United States of Mexico and of the National Railways of Mexico*, as of 1919, 32p.; “*Annalist*,” XIII, 816-7 (1919).

## THE OUTLOOK

That this plan is seriously defective is apparent even after a superficial examination. Its scope is both too wide and too narrow; for while it includes not only the finances of the national lines but those of the nation and states as well, it ignores the independent lines altogether. It also leaves out of consideration, unless by implication, the complex inter-corporate relationships of the national lines themselves.

It assumes that the nation is possessed of ample oil, mineral, and agricultural lands; but the public lands of Mexico are not extensive. True, under the constitution of 1917, the nation assumes the title to subsurface wealth not already in private ownership; but to involve this unexploited wealth in any scheme of financial rehabilitation would only tend to jeopardize the subsurface rights now legitimately in private ownership. Unexploited deposits of oil or of minerals require capital for their development and additional capital to provide means of transportation of the output to a market.. To create a demand for capital at a time when the railroads so urgently need funds for rehabilitation would certainly postpone the time when the existing economic system can be restored to a productive basis, and it would add immensely to the cost.

The plan also assumes that a contractual relationship between the government and the railroad is desirable; but this is debatable, and there is one piece of concrete evidence—the Tehuantepec partnership—which may be cited in opposition. Mexican railroads already have claims for compensation for the use and destruction of their facilities, and these claims have all the validity of a contract, but these they are now asked to forego. Thus far they have shown no willingness to do so.

Another assumption that is questionable is that order is somehow to be restored immediately, whereas it is certain to be

## THE RAILROADS OF MEXICO

a long and arduous undertaking to reestablish the authority of the most efficient government over so extensive and so rugged a country as Mexico.

It is the persistence of disorder that makes the financial problem difficult; for Mexico's heaviest liability is its habit of disorder and its consequent lack of good will among the financial interests of the world. Its debt, measured by the standard of nations of the old world, is small; and measured by the resources of the country it is relatively insignificant. Mexico is the world's second largest producer of silver, while its potential oil production cannot even be estimated; and the demand for these two commodities to-day is world wide. But before a bankrupt nation's debts may be paid, funds must be accumulated. This can be done only through the restoration of conditions favorable to normal economic activity, which is contingent upon the rehabilitation of the facilities for production and distribution.

To start the process it is necessary to resort to further borrowing for immediate requirements, but before responding to requests for loans, creditors must receive assurance that their loans will contribute to the remedying of the existing situation and not to its complexity.

The first requirement is evidence of good faith upon the part of the government; and this can be given by the present government of Mexico by immediately restoring to their corporate owners all those railroads which are now held by the government. The next step is the adjustment of claims, which will necessitate an independent audit of accounts and an inventory of the physical property of the claimants. With the information obtained through the audit and otherwise obtainable, terms of settlement between the government and the railroad corporations could be formulated and deter-

## THE OUTLOOK

mined; and upon the security of their acknowledged claims the railroads could raise some of the funds for the physical rehabilitation which the inventory showed to be necessary. To raise all the funds needed for this purpose would be unnecessary; for the greatest need of Mexican railroads to-day is motive power and rolling stock. Given assurance of reasonable safety, such equipment could be obtained upon the instalment plan, i. e., the "car trust" basis.

The acknowledged claims of the government, however, would have little or no value as collateral, and to give them such value, the government would need to back them up with guarantees of a substantial order. The nation already possesses assets which are available for this purpose. It owns 50.2 per cent of the stock of the National Railways of Mexico, representing control of a property which under proper conditions could be made to produce bountifully without exploiting the interests of the people (which are amply protected by the terms of the underlying concessions). It also owns outright the Tehuantepec line, which has no superior in Latin America and few elsewhere. These it could pledge as security of its obligations to its railroad claimants.

If this plan were carried out, the railroads would have a chance to show what they could do toward settling inter-corporate claims and meeting the requirements of their secured creditors. Dividends need not be considered here, since the concern of the shareholders is not the immediate return upon their holdings but the restoration and development of the productive capacity of the properties in which they are interested.

The question arises as to the possibility of raising additional capital for Mexican railroads at a time when, with few exceptions, the countries of the world are clamoring for help.

## THE RAILROADS OF MEXICO

Devastated and prostrate Europe has first claim in the name of humanity; but since the great need of the present is increased production it would be folly to exhaust the surplus of creditor countries through loans to countries whose producing capacity is but little above the needs of their own peoples. If the world is to be restored to a stable basis, it will be through increasing the production of the undeveloped and underdeveloped parts of it; and therein lies Mexico's claim. It is a claim that will be honored only when there is evidence that wise counsels prevail in the government, and when the interests of native and foreign investors are dealt with in a spirit of fairness and impartiality

Distrust of foreigners has always been a characteristic of Mexicans. There have been too many incidents in the history of the United States which have tended to justify this attitude; but without them it is certain that the Mexican mind would have sometimes clashed with the best-intentioned Anglo-Saxon. In their dealings with foreign capitalists, which means British and American capitalists, they have learned to play the interest of one against the interest of the other. The end of the world war finds Great Britain with a reduced lending capacity, and with a disposition to advance sums primarily for imperial benefit. It is undesirable that the United States should be the sole reliance of Mexico in matters of finance. It is extremely desirable that Latin American interests should be more closely knit together. Argentine, Brazil, Chili, and Cuba have all profited from the events of the last seven years; and they should be given an opportunity to participate in the refinancing of a country with which they are related by ties of blood. Financially their help might be small, but sentimentally it would be great; and he who would disregard sentiment in matters of international relations has much to learn.

## PART II





CHAPTER IX  
MEXICAN TOPOGRAPHY

**L**AND transportation cannot be considered apart from topographical characteristics; hence any discussion of the railroads of Mexico must be prefaced with a description of the natural features of the country which facilitate or retard the efforts of the engineer. This is a subject, however, which has been left in comparative neglect by writers whose treatment of less important matters has been most ample. Humboldt is an exception, but he wrote at a time when much remained to be learned. Others have given us various fragments of information to the effect that Mexico is a country of exceedingly rugged surface, with massive mountains of abrupt ascent enclosing a plateau of great altitude, and with a few rivers of irregular flow cutting their way through to the sea; but Herbert M. Wilson alone has adequately described the country as a whole. From his description the following extended quotation is presented:

“A study of the topography of Mexico is a study of her Sierra Madre. Of these mother mountains there are two, the Sierra Madre of the East, and the Sierra Madre of the West, and between them lies a great, elevated and irregularly eroded plain, the central basin of Mexico. At the southern extremity of the peninsula these features unite and terminate in a giant group of volcanoes, among which are the highest mountains on the North American continent. . . .

“Both the topographic and geologic features of Mexico are an extension of the Cordilleran systems of the United States.

## THE RAILROADS OF MEXICO

The ranges of the Rocky Mountains continue across the Rio Grande as the Sierra Madre of the East, and find their ultimate terminus in the neighborhood of Tampico, midway of the eastern Mexican coast. The Sierra Nevada of California and the Basin Ranges of Arizona, after merging and almost disappearing in the deserts about Mojave and Yuma, gain magnitude as they continue in the Sierra Madre of the West to the Rio Lerma, near San Blas, midway of the Pacific Coast. Between the two great Sierra Madres is the southern extension of the Cordilleran Plateau of the United States. These two mountain systems unite in Southern Mexico in the group of gigantic volcanoes which extends from the Pacific Ocean to the Gulf of Mexico. . . .

“The general level of the basin region is between four and six thousand feet in altitude, and . . . the sierras which rib it are from two to four thousand feet higher. The summits of the Sierra Madre of the West attain altitudes of ten thousand to twelve thousand feet; those of the Sierra Madre of the East reach altitudes of seven thousand to nine thousand feet; and farther south the valleys are seven thousand to eight thousand feet in altitude, while the higher summits tower to elevations of fourteen thousand to eighteen thousand feet. South of these is the deep trough of the Rio de las Balsas, but little above sea level; and south of this again, near Oaxaca, the mountain summits attain altitudes of ten thousand to twelve thousand feet. . . .

“Central Mexico . . . is a great basin or depression ribbed with many irregularly disposed and disconnected mountain ranges, buttes and isolated ridges which are separated by broad valleys and plains. Many of these plains are the beds of ancient lakes . . . and have no drainage outlet to the sea. The basin-like character of this central region is accentuated

## MEXICAN TOPOGRAPHY

by the mighty barrier of the Sierra Madre which towers above it on the west; and by the lesser and more disconnected Sierra Madre of the East; and by the gigantic volcanic cones which dominate it on the south. . . .

"The basin valleys of Mexico, near the northern borders of the Republic . . . have their least altitude and greatest area. Like the neighboring portions of the United States, this region consists of vast desert plains relieved by narrow mountain ridges or the rugged outlines of faulted mesa edges, cut by the many cañons and barrancas which mark the drainage lines of the country. . . . Southward the plains of the Basin region diminish in area, while its desert mountains increase in number and altitude. Toward the geographic centre of Mexico the plains have dwindled to large intra-montaine valleys, until finally, in the neighborhood of Zacatecas and Querétaro they are but narrow valleys separating giant mountain ranges.

"Toward the northern boundary of Mexico the Sierra Madre mountains of the East attain their least height and are entirely devoid of cordilleran aspect, consisting of isolated ranges and lost mountains, and merging near the neighborhood of the Rio Grande into the desert plains and mesas of western Texas and southern New Mexico. Southward near Monterey they begin to lose their disconnected character and to form a more united and conspicuous mountain mass, and but one hundred and fifty miles further south, below Victoria, they unite in a superb elevated mass where culminate all the topographic characteristics of the west. To the north the cordilleran type is lost in isolated cerros, the peculiar forms of which are typified by 'la Silla' or 'the Saddle' near Monterey, which is by far the most conspicuous feature in a mixture of desert plain and jagged hills. The

## THE RAILROADS OF MEXICO

general character of these desert sierras is bold and striking. . . .

"To the eastward is an extensive and rugged decline which slopes for fifty miles and terminates in the coastal plain of the Gulf of Mexico, over a mile vertically below. To the south the Sierra Madre of the East continues to rise in stupendous mountain masses which culminate in the volcanic cones of Orizaba and Popocatepetl. To the west are the vast arid deserts of the central basin region, glistening with huge patches of dazzling white, the dried and alkali-incrusted beds of ancient lakes, bristling with a scanty growth of sage brush and cactus, and mottled with rugged mountain forms. . . .

"The Sierra Madre of the West, like those of the east and the central basin region, are least conspicuous, and attain the least altitude near the northern border of Mexico. Along the international boundary the hills are disconnected and without regular system, the highest summits rarely reaching six thousand feet in altitude; thence southward these hills mass together in most irregular and confusing manner, increasing in height and number until in northern Durango and Sinaloa they have assumed cordilleran proportion and height.

"Of this system of mountains there is known less, perhaps, than of any other on our continent. . . . Parts of its area are to-day considered inaccessible, and constitute the great topographic *terra incognita* of North America. These mountains are much higher and more extensive in area than are the Sierra Madre of the East, and culminate midway of the length of Mexico in summits exceeding eleven thousand feet in altitude; Frailcitos, near Batopilas, is 9,900 feet in height; La Cuesta Blanca, east of Culiacan, is 11,200 feet in height;

## MEXICAN TOPOGRAPHY

and La Cumbre Pinal attains an altitude exceeding 12,000 feet. As they increase in height the crests of the Sierra Madre gradually approach the coast until in the neighborhood of San Blas rugged mountain faces rise sheer above the ocean to altitudes of two to seven thousand feet. In this neighborhood the mountain groups lose all apparent regularity, and are connected together by passes at different elevations, and have no longer a uniform direction. Still farther south the whole system is interrupted by the deep gorge of the Rio Lerma, the valley of which forms the northern base of the volcanic scarp. This stream drains Lake Chapala, the largest body of water in the Republic, and its ultimate source is in the Valley of Toluca, within a few miles of the city of Mexico. . . .

“The line of volcanic peaks in which the two Sierra Madres terminate and which forms the southern rim of the Basin region, may be likened to the apex of the letter V, the two arms of which correspond to the general outline of the Mexican cordillera, and here these mountains extend in unbroken mass from sea to sea, terminating precipitately to the south in great escarpments facing the coast and the Valley of the Rio de las Balsas. . . .

“South of the Rio Balsas is a narrow and precipitous mountain range attaining altitudes of ten to twelve thousand feet and separating the Valley of the Balsas from the Pacific Coast. This range of mountains is fairly homogeneous and continuous to its culmination in Oaxaca, near the Isthmus of Tehuantepec, whence a northern spur connects it around the head of Balsas Valley with the volcanic scarp. At the Isthmus of Tehuantepec this mountain mass falls suddenly to within a few hundred feet of the level of the sea, beyond which the great Antillean system rapidly assumes cordilleran

## THE RAILROADS OF MEXICO

proportions, culminating in a summit exceeding fourteen thousand feet in altitude on the boundary line between Mexico and Guatamela. . . .

"The Coastal Plain at the base of the western Sierra Madre in Sonora is much wider than farther south. It is broken by rugged and precipitous mountain ridges separated by broad deserts, and these are traversed by the boulder-strewn paths and dry washes of the streams which drain the western cordilleran slopes."<sup>1</sup>

We have here an excellent physiographical sketch of Mexico in bold outline which in itself is sufficient to indicate the obstacles to railroad construction. The difficulties appear even more striking when a specific engineering problem is presented, as in the following paragraph, which has to do with the location of the line of the Mexican Central through the Tamasapo cañon between San Luis Potosi and Tampico:

"This canyon is eighteen miles long with perpendicular cliffs many hundred feet high on both sides. When the first surveys were made, the canyon was devoid of roads or trails, and indescribably gloomy and picturesque. The sun hardly ever penetrated to its rocky bed where the engineers camped and where a sudden rain, in a few hours and without previous warning, might create a torrent that would fill the bottom of the canyon from side to side many feet deep and carry away every vestige of the camp outfit and survey already accomplished. At night, the noise of the rocks, becoming detached from the cliff above and falling into the canyon, made sleep a succession of nightmares. When the actual location was made it was found that, in order to obtain proper grades, the road would have to intersect the cliffs at about half their

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<sup>1</sup> Wilson, *Topography of Mexico*, American Geographical Society, "Bulletin," XXIX, 249-56; hypsometric map facing p. 249. See also Hill, *Geographic and geologic features and their relation to the mineral products of Mexico*, American Institute of Mining Engineers, "Transactions," 1901:XXXII, 168-78.

## MEXICAN TOPOGRAPHY

heights. The difficulties then began in earnest. All camp comforts had to be abandoned, and night would find the engineers camping on the cliffs, near the last stake, swinging their hammocks over rocks and precipices and securing what little rest they could under the circumstances. The roadbed as now finished is nearly all carved out of the solid rock; the total track curvature is 12,248 degrees, and in the aggregate only about one-fifth of distance is on tangents."<sup>2</sup>

Even to-day there is but a single line of railroad directly connecting the central plateau of Mexico with the Pacific coast, although a project was launched in the early fifties and several attempts to construct such a line through the intervening range have been made within the last forty years. To go by rail from Guaymas to Chihuahua, 275 miles distant, it is necessary to travel over a thousand miles. Rail communication between Mazatlan and Durango, 135 miles apart, is possible only over a route that extends nearly two thousand miles.

It has been the practice of railroad builders in all undeveloped countries to follow the routes used by packers and wagoners which had their beginning in the trails of the natives, who generally sought the easiest ascents and the lowest altitudes. Therefore, before considering the beginning of the railroad system of Mexico, it is necessary to give some attention to pre-existing systems of transportation.

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<sup>2</sup> Schmidt, An engineer's reminiscences of Mexican railway building, "Engineering Magazine," XLV, 684-5 (1918).





## CHAPTER X

### BEFORE THE RAILROADS

**B**EFORE the coming of the railroad, inland transportation in all countries has been limited to waterways, trails, and highways. In Mexico, however, because of the peculiar topographical conditions, inland water transportation has always been insignificant, and such it will continue to be. Old Mexico was pre-eminently a country of trails and primitive roads; and its transportation agencies were the Indian porter, the pack animal, and the two-wheeled cart. This is also true of Modern Mexico in those parts of the country which have not yet been reached by the extending lines of railroads. True, many highways have been constructed, one of the most notable examples—from Vera Cruz to the City of Mexico—having been laid down by the Spaniards; but despite the attempts of the government—as indicated by the many references to highway development in the official reports—Mexico's land transportation needs today are largely served by trails and dirt roads and by railroads.<sup>1</sup>

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<sup>1</sup> "Continuous paved highways, as American engineers understand the term, do not exist in the Republic of Mexico, except for a few short stretches in the immediate vicinity of some of the larger towns. Engineers who have been over the roads from Mexico City to Toluca on the west and Cuernavaca to the south—conspicuously the best roads running to the capital—will remember them as distinctly second-rate highways. This unimproved condition of the roads exists throughout all rural Mexico, although even the smaller towns are usually well paved with cobblestones, while the asphalted city streets compare favorably with the boulevards of the United States and Europe."—Borden and Henderson, *Roads between Vera Cruz and Mexico City*, "Engineering Record," LXIX, 576 (1914).

"The automobile road between Iguala and the capital, Chilpancingo, constructed a few years ago, has, through neglect and the lack of repair, deteriorated and is at present useless. There are no highways in the State, and the narrow trails leading through the mountains afford the only means of traveling from

## THE RAILROADS OF MEXICO

For this situation there are two explanations. One has been well expressed by Professor Bernard Moses, who says:

"We have to take account of the fact the Spaniards acquired from the Moors, during their long association with them in the Peninsula, an indifference to roads suited to vehicles with wheels, and that the colonists who went out from Spain, in the sixteenth century carried this indifference to the New World. Settlements were made and cities grew to importance, with no other means of communicating with the world at large than that offered by the Indian trail or the mule path.

"This was not a matter of great moment so long as Spain's colonial restrictions on trade were maintained. A few Indians or a few donkeys would carry at a single trip all that any town received from Spain in the course of a year; and the colonists were thus thrown back upon their immediate efforts for the satisfaction of their wants; and the king, by prohibiting their trade with the colonies, emphasized their isolation, and indicated the uselessness of means of communication. This restrictive policy of Spain with regard to her colonies tended to place the European settlers on the economic basis of the Indians."<sup>2</sup>

The other reason lies in the fact that deterioration from natural causes is so rapid in Mexico that the maintenance of a highway requires constant vigilance and heavy outlays of

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one town to another. Since these trails are not considered safe at present there is no regular overland mail service."—Consul Edwards (Acapulco), U. S. "Commerce Reports," 1916, Sup. 32a, 3.

"Automobiles, even in normal times, are not marketable here, the condition of the streets and highways throughout this district being unfavorable."—Consul Canada (Vera Cruz), *Ibid.*, 27.

<sup>2</sup> Moses, *The railway revolution in Mexico*, 7-8 (1895). "When one has traveled in old Spain, one can imagine that the colonists did not bring over very enlightened ideas on the subject; and as the Mexicans were not allowed to hold intercourse with any other country, it is easy to explain why Mexico is all but impossible for carriages."—Tyler, *Anahuac*, 76 (1861).

## BEFORE THE RAILROADS

money; in fact, there is little difference in cost of upkeep between a highway and a railroad.

Early Mexican travel books contain many references to the inadequate transportation facilities. Albert M. Gilliam, an American who visited Mexico in 1843 and 1844, thus described the typical Mexican wagon:

"Without exception, the Mexican-constructed wagon has but two wheels, and is manufactured, generally, without the use of iron. The hub is a single cut from a tree, about twenty-eight inches in length and fifteen in diameter. There are but four spokes to a wheel, four inches through; while the felloes are twelve inches thick and as many broad. The whole is made of the heavy, strong wood of the country, and, from its solidity, is difficult to break. The body of the wagon is about equally balanced over the axletree, the front resting upon the tongue. . . . The body is never planked, but thatched with straw, as also the sharp roof to it.

"From eight to twelve oxen are at a time yoked by the horns, and not with a bow over the neck; while the driver carries a stout pole, from ten to fifteen feet in length, having a sharp metal spur affixed to the smaller end, by the cruel use of which they prick and goad the animals along. It is true that there are some lighter wagons used in the cities, which have two sets of shafts, so that the whole weight of the body of the wagon rests upon the backs of the horses. However, as transportation is carried on the back of mules, they have had but little use of wagons in Mexico."<sup>a</sup>

An English traveler, Charles Lempriere, who was in Mexico in 1861 and 1862, gave a similar report:

"The conveyance of all kinds of merchandise throughout the Republic of Mexico is effected by pack-mules and oxen.

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<sup>a</sup> Gilliam, *Travels over the table lands and Cordilleras of Mexico*, 205.

## THE RAILROADS OF MEXICO

With this system, and the bad state of the roads generally, it will be easily understood that transportation is not only slow but costly, and forms one of the chief obstacles in the way of the development of the great resources of the country. The average distance performed by mules and wagons is from fifteen to eighteen miles per day.”<sup>4</sup>

As to the more primitive transportation agencies, we have this statement made by a writer of the present generation:

“Until the railroads, Mexico was the paradise of the ‘packer.’ From prehistoric days down, the human back was the corner-stone of commerce; and it did not disappear from the edifice even when the Conquest introduced beasts of burden. Even the interior trade with Durango, Chihuahua, and New Mexico occupied 60,000 pack-mules. From Vera Cruz to the capital, over wonderful and costly roads . . . more than \$20,000 worth a year was ‘packed.’ Indeed, everything of the enormous imported luxury of New Spain came by the same painful process. Even the cacao of Guayaquil and the copper of Coquimbo were shipped to Acapulco, and thence crossed the mountains by muleback clear to Vera Cruz—at \$2 a carga of 81 pounds. As for human loads—and the Indians still carry their own burdens mostly, instead of employing quadrupeds—the individual achievement is almost as startling as the aggregate. . . . To this day it is a common thing to see a Mexican Indian carrying a back-load of 150 pounds twenty miles to market.”<sup>5</sup>

The principal trade routes in pre-railroad Mexico were as follows: Vera Cruz to Mexico, via Jalapa; Vera Cruz to Mexico, via Orizaba; Tampico to Mexico, via Pachuca or via San Luis Potosi, Guanajuato, and Queretaro; Natchitoches

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<sup>4</sup> Lampriere, *Notes in Mexico*, 204.

<sup>5</sup> Lummis, *The awakening of a nation*, 80 (1898).

## BEFORE THE RAILROADS

to Mexico, via San Antonio, Presidio de Rio Grande (or Piedras Negras), or via Laredo, Monterey, Saltillo, and San Luis Potosi; Santa Fe to Mexico, via Paso del Norte (or El Paso), Chihuahua, Durango, Zacatecas, and Guanajuato; Mazatlan to Mexico, via Durango; San Blas to Mexico, via Guadalajara and Querétaro; Acapulco to Mexico, via Chilpancingo and Cuernavaca; and Mexico to Guatamela, via Oaxaca.<sup>6</sup> These routes indicate the location of the passes through the mountains which encircle the great central table-land.

Early travelers in Mexico proceeded upon the backs of animals or in some instances in a heavy four-wheeled carriage (*volante*).<sup>7</sup> Litters (*litteras*) borne by mules were also available for travelers on the two highways between Vera Cruz and Mexico, and their use continued long after the introduction of stages.<sup>8</sup> One of the best contemporary descriptions is here reproduced:

"The Mexican littera is a kind of oblong box, about a foot deep, three feet wide, and six feet long,—unfortunately more frequently shorter than longer. Two long poles passing down and fastened to the sides, project fore and aft, and serve as shafts for two mules, to whose pack-saddle the ends are attached by straps. In short,—a long box instead of an upright one,—a recumbent and supine position, instead of a sitting one, and two four-footed porters instead of two biped ones—are the main points of difference between the littera and the sedan chair. It is furnished with a leather awning

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<sup>6</sup> Humboldt, *New Spain*, II, 7-8, III, 492, IV, 1-2 (1811); Folsom, *Mexico* in 1842, 108-26; Castro, *The republic of Mexico* in 1882:210-33. See also Borden and Henderson, as above, 577-8, as to modern highway conditions.

<sup>7</sup> Poinsett, *Notes on Mexico*, 18 (1824); Bullock, *Six months in Mexico*, 249 (1824).

<sup>8</sup> Chappe D'Auteroche, *Voyage to California*, 27 (1778); Bullock, 486; Ward, *Mexico* in 1827, II, 264; Forbes, *A trip to Mexico*, 40-1 (1851).

## THE RAILROADS OF MEXICO

and cotton curtains, and ordinarily with a well-worn mattress, through which you may feel the rough boards upon which you recline.”<sup>9</sup>

The first stage line was established between Vera Cruz and the City of Mexico over the Jalapa route in 1830 by three men from New England whose names have not come down to us. Their coaches, of the “Concord” type, were built in the United States, and their drivers were Americans. In 1833 the business was purchased by Manuel Escandon, who after a number of years sold it to Anselmo Zurutuza, a Spaniard. Under Zurutuza a vast system was developed, and stages or *diligencias* were put in service in all the populated centers of the country. Upon the advent of the railroads the business fell off, but until the Madero revolution there were still many stage lines in Mexico.<sup>10</sup> A composite description of the early diligence follows:

“The body of the carriage . . . rests upon two broad leather straps, fastened before and behind to wooden projections rising from the bed. They are very strong, and the whole contrivance, admirably adapted for Mexican roads. . . . The Diligence has three seats, and three persons sit upon each seat, those in the middle row having a leather strap for their backs, moveable for the convenience of the passengers behind them. The doors are like ordinary carriage doors in England, and the seats placed across the vehicle. The rain and dust are kept out by means of leather curtains rolled up at the pleasure of the passenger.”<sup>11</sup>

“The body is quite independent of the wheels and axles,

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<sup>9</sup> Latrobe, *The Rambler in Mexico*, 294-5 (1836).

<sup>10</sup> Kelley, *History of the settlement of Oregon*, 37n (1868); Macedo, “La evolución mercantil,” 194 (1905); Thompson, *Recollections of Mexico*, 10-1 (1846); Forbes, 44-7.

<sup>11</sup> Forbes, 45.

## BEFORE THE RAILROADS

and is so placed that when the vehicle turns over the upper part immediately separates itself from the lower."<sup>12</sup>

"Four seats are on the top, while the cocher and his assistant occupy the box. . . . Two stout mules occupy the shafts; then four abreast in splinter bars; and in front of all a pair, or sometimes three more."<sup>13</sup>

Upon one point all early accounts agree; that traveling in Mexico was attended by great risk and discomfort. An English traveler who went in a diligence from Vera Cruz to Mexico before the opening of the railroad, gave a vivid description of the trip, from which the following excerpt is presented:

"I have travelled on rough roads in my time, but on such a road as this never. My companion refused for a time to award the premium to our thoroughfare; but, just while we were discussing the question and recounting our experience of bone-smashing highways, we reached a pass where the road consisted of a series of steps, nearly a foot in depth, down which steps we went at a swinging trot, holding on for our lives, in terror lest the next jerk should fairly wrench our arms out of their sockets, while we could plainly hear the inside passengers howling for mercy, as they were shot up against the roof which knocked them back into their seats. Aching all over, we reached level ground again, and Mr. Christy withdrew his claims, and agreed that no road anywhere else could possibly be so bad as a Mexican road; a decision which later experiences only served to confirm.

"Our start, every time we changed horses, was a sight to see. Nine half-broken horses and mules, in a furious state of excitement, were harnessed to our unwieldy machine; the helpers let go, and off they went, kicking, plunging, rearing,

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<sup>12</sup> Hill, *Travels in Peru and Mexico*, II, 210 (1860).

<sup>13</sup> Lempriere, 53.



## THE RAILROADS OF MEXICO

biting, and screaming, into ruts and water-courses that were like the trenches they make for gaspipes in London streets, with their wheels on one side on a stone wall, and in a pit on the other, and Black Sam leaning back with his feet on the board, waiting with perfect tranquillity until the animals had got rid of their superfluous energy and he could hold them in. We were always just going to have some frightful accident, and always just missed it.'"<sup>14</sup>

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<sup>14</sup> Tylor, 37.

## CHAPTER XI

### RAILROADS INTRODUCED

IN considering the introduction of railroads into Mexico it is well to bear in mind that the first important railroad company in the United States—the Baltimore and Ohio—was chartered in 1827, and that the experiments which demonstrated the practicability of Stephenson's locomotive were conducted in England in 1829. During the next few years many projects were started in the United States; but it is somewhat surprising that as early as 1833 the feasibility of a line from Vera Cruz to the City of Mexico was being considered. That such is the fact we know from the narrative of Hall Jackson Kelly, the eccentric Boston schoolmaster and engineer, who in that year crossed Mexico en route to Oregon.

“While exploring the country between Vera Cruz and the City of Mexico, I became satisfied of the feasibility of a railroad route between one and the other of these places. Desirous of seeing Mexico benefited with the same kind of institutions as those effecting such great things for my native New England, I planned and advised that improvement—especially would I have internal improvements commenced without the least possible delay, in a country where the common people were but little in advance of the heathen; where most of the roads were in a state of nature, and the earth bore but few marks and evidence of civilization dwelling there.

“The improvement suggested by me was a topic of frequent conversation with [James S.] Wilcox, the American consul, and with other enterprising foreigners. It was one of the

## THE RAILROADS OF MEXICO

subjects of a communication to President Santa Anna, describing, according to my apprehension, what would be the utility of railroads.’”<sup>1</sup>

Santa Anna, it appears, was opposed to the idea, “giving as his reason the harm that would accrue to the raisers of mules and the owners of wagons as well as to the muleteers and drivers who carried on the wretched traffic between the capital and the coast.””<sup>2</sup>

Yet four years later, August 22, 1837, under the administration of President Bustamante, a concession was granted to Francisco Arillaga, a merchant of Vera Cruz, for a railroad from Vera Cruz to the City of Mexico with a branch to Puebla.\* Under this concession a preliminary survey was made, but nothing further was done and the concession was forfeited.<sup>4</sup>

On May 31, 1842, General Santa Anna, again in the presidency, issued a decree “imposing on the creditors of the highway from Perote to Vera Cruz the obligation of constructing a railroad from the city of Vera Cruz to the Rio de San Juan” in the state of Vera Cruz. This decree re-established a tax (*de averia*) of two per cent in excess of the import duties at Vera Cruz (originally established for highway repairs), and dedicated the proceeds to the repair of the Perote highway and to the construction of the projected railroad. The railroad work was intrusted to Joseph Faure, under whose direction about three miles of track were laid. A section of this line, from Vera Cruz to El Molino, was opened in 1850, and a

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<sup>1</sup> Kelley, Narrative of events and difficulties in the colonization of Oregon, 74-6, 89-92 (1852).

<sup>2</sup> Macedo, “La evolucion mercantil,” 196 (1905).

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<sup>3</sup> Secretaria de Fomento, “Legislacion sobre ferrocarriles; coleccion de leyes, decretos, disposiciones, resoluciones y documentos sobre caminos de fierro (hereinafter cited as Fomento,” Legislacion), I, no. 2.

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<sup>4</sup> Baz and Gallo, History of the Mexican railway, 18-4 (1876).

## RAILROADS INTRODUCED

further section in 1851 when the government took over the project. The line was completed to Tejeria in 1857.<sup>5</sup>

On October 31, 1853, a concession was issued to Juan Laurie Rickards for a railroad from Vera Cruz to Mexico via Puebla, and on November 28, 1853, a concession was issued to the same person for a railroad from Mexico to a port on the Pacific. These concessions were declared forfeited on August 2, 1855.<sup>6</sup> A concession for a railroad from San Juan to Acapulco was issued on the same day to Mosso Brothers. Work was begun in 1856 between Mexico and Guadalupe Hidalgo under the supervision of Robert B. Gorsuch of New York, and the line, three miles in length, was opened in 1857.<sup>7</sup>

On February 24, 1856, a concession was issued to Francisco Havarez for a railroad from Chilpancingo to Acapulco or another point on the Pacific; and on August 2 of the same year a concession was granted to Albert C. Ramsey for a railroad from Anton Lizardo (between Vera Cruz and Alvarado on the Gulf coast) to Acapulco on the Pacific.<sup>8</sup>

The Mosso Brothers in 1857 sold the Guadalupe Hidalgo line to Antonio Escandon (brother of Manuel Escandon) who also purchased the Vera Cruz-San Juan line from the government; and on August 31 of that year Escandon received a concession for a railroad from Vera Cruz to Acapulco. The revolution of 1857 then made further construction impossible.

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<sup>5</sup> Fomento, "Legislacion," I, nos. 4, 5, 7, 9, 10, 15, 18, 19, 23, 28, 31, 32, 41; Baz and Gallo, 14; Macedo, 196-7; Ferguson's Anecdotal guide to Mexico, 23-4 (1876); Romero, Railways in Mexico, "International Review," XIII, 480n (1883).

<sup>6</sup> Fomento, "Legislacion," I, nos. 36, 37, 39, 40, 46; Secretaria de Fomento, "Memoria," 1857; 20.

<sup>7</sup> Fomento, "Legislacion," I, no. 47; Secretaria de Fomento, "Memoria," 1857; 21; Baz and Gallo, 14; Ferguson, 24; Shepard, The land of the Aztecs, 57-9 (1859).

<sup>8</sup> Fomento, "Legislacion," I, nos. 49, 51; Secretaria de Fomento, "Memoria," 1857:20.

## THE RAILROADS OF MEXICO

In 1858 under the direction of Captain Andrew Talcott, a careful survey was made of the Orizaba route, while M. Almazan, a Mexican engineer, surveyed the Jalapa route. Captain Talcott, a graduate of West Point, was assisted by a party recruited in New York, his chief assistants being Robert B. Gorsuch, and M. E. Lyons of Reading, Pa.\*

On April 5, 1861, after the re-establishment of constitutional government, Escandon received another concession for a railroad from Vera Cruz to Acapulco or any other port on the Pacific, and in view of the fact that the Orizaba route had been chosen, he was now required to build a branch to Puebla.<sup>10</sup>

The French invaders on October 23, 1862 entered into a contract with M. E. Lyons, the American director of Escandon's line, for construction from Tejeria to Chiquihuite, and on September 8, 1863 a contract was entered into for the extension of the line to Soledad.

Escandon on August 19, 1864 transferred his concession to the Imperial Mexican railway company, which was registered in London in September of that year. Work was resumed in February, 1865 at both ends of the line by Smith, Knight, and company, who soon transferred the contract to another English firm, Crawley and company. Two sections were completed: from Vera Cruz to Paso del Macho—47½ miles—and from Mexico to Apizaco—86½ miles—by the end of the Maximilian régime, and some preliminary work was done in the intervening section.<sup>11</sup>

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\* Fomento, "Legislacion," I, nos. 57, 58; Secretaria de Fomento, "Memoria," 1857:22-8; Baz and Gallo, 14; Ferguson, 24; Low, Review of the report of Captain Andrew Talcott, Amer. Soc. of Civil Engineers, "Proceedings," XLI, 2569-2634 (1915); The Mexican Railway, "Engineering News," LXXIV, 1016 (1915).

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<sup>10</sup> Fomento, "Legislacion," I, no. 74; Baz and Gallo, 14; Ferguson, 24.

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<sup>11</sup> Fomento, "Legislacion," I, nos. 101, 105, 107, 121, 146; The Imperial Mexican railway, "Merchants' Magazine," LV, 20-4 (1866).

## RAILROADS INTRODUCED

Upon the restoration of the Republic the company's concession was exempted from forfeiture by a decree of November 27, 1867, upon condition that construction work be continued, and the concession was again confirmed on November 11, 1868. The name of the company was then changed to "Mexican railway" (*Ferrocarril Mexicano*), and work was continued under the direction of English engineers. The branch from Apizaco to Puebla was completed in 1869. At the Vera Cruz end of the line, work was completed from Paso del Macho to Atoyac in 1870, to Fortin in 1871, and to Orizaba in 1872. The railheads of the two sections met near Maltrata, December 20, 1872; and on January 1, 1873, the entire line was formally inaugurated by President Lerdo de Tejada.<sup>12</sup>

Meanwhile two additional concessions for a railroad from the Gulf to the Pacific had been issued. On December 8, 1866, a concession was granted to Numa Dousdebès, Julius Ziegler, and Ramon Zangroniz for the construction of a railroad from Puebla to the Pacific, passing through Atlixco, Matamoros Izucar, and Valle de Atoyac, Zangroniz having already received a concession for a line from Puebla to Vera Cruz via Jalapa on December 24, 1865.<sup>13</sup> On December 14, 1870, Rene Masson and Felix Wyatt received a concession for a line in three sections, from Vera Cruz to the Tehuantepec line, from Anton Lizardo to Cuernavaca, and from Cuernavaca to Acapulco.<sup>14</sup>

The Mexican of the last generation had vivid recollections of the war with the United States, and in consequence a reluctance to give support to projects that might facilitate invasion

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<sup>12</sup> Fomento, "Legislacion," I, nos. 174, 188, 203, 204, 219, 220, II, nos. 229, 231, 233, 245, 257, 258; Baz and Gallo, 15-6; Ferguson, 25; Janvier, Mexican guide, 340-3; U. S. Foreign relations, 1877:426-9.

<sup>13</sup> Fomento, "Legislacion," I, nos. 137-9, 179.

<sup>14</sup> Ibid., no. 227.

## THE RAILROADS OF MEXICO

from the north. The need for railroads was acknowledged, but only such projects were favored as would open up communication between the Gulf and the Pacific ocean, or would contribute to the development of the interior. It was obvious, however, that a line from the American border to a point on the remote northwest coast of Mexico would carry with it no menace to Mexico, and on July 15, 1854 a concession was granted to Alejandro José Atocha for a railroad and telegraph line from Presidio del Norte (or Piedras Negras) to Guaymas.<sup>15</sup> On November 23 of the same year J. B. Moore and company also received a concession for a railroad from the northern frontier to a point on the west coast between Altata and Manzanillo. This was forfeited in 1857.<sup>16</sup> The state of Chihuahua on August 27, 1859 granted to General Angel Trias, as representative of James Whiting, president of the American-Mexican company of New York, a concession for a railroad from Presidio del Norte via Villa del Paso (or Juarez) to Guaymas, and the state of Sonora on March 17, 1861, granted a like concession.<sup>17</sup> These state grants were supplemented by a national concession of April 15, 1865. On August 6, 1866 the national congress declared this concession void, but the action was not final; for on November 7, 1871 the concessionnaire was asked to show cause why work should not be carried out, and it was not until January 14, 1873, that forfeiture was finally declared.<sup>18</sup>

Meanwhile, in 1868, the "Mexico and United States railway company" was incorporated by the Mexican congress, the in-

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<sup>15</sup> Fomento, "Legislacion," I, no. 42; Secretaria de Fomento, "Memoria," 1857:20.

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<sup>16</sup> Fomento, "Legislacion," I, nos. 44, 56; Secretaria de Fomento, "Memoria," 1857:20.

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<sup>17</sup> Fomento, "Legislacion," I, nos. 65, 72.

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<sup>18</sup> Ibid., nos. 116, 154, II, nos. 244, 259.

## RAILROADS INTRODUCED

corporators being three Mexicans and the following Americans: Columbus C. Douglass, Jesse Hoyt, Cyrus H. McCormick, Anson Bangs, A. H. Barney, and William B. Ogden. This company was to build a railroad from Presidio del Norte to the Pacific at a point between Guaymas and Mazatlan and also from Mexico to a point on that line. Beyond this nothing is known of the project, which is remarkable only as the first organized movement to establish direct railroad communication between the Capital of Mexico and the northern boundary.<sup>19</sup>

On January 14, 1869, another concession for a railroad over the Guaymas route was granted to a company represented by Julius A. Skilton, United States consul general in Mexico, and this was declared void on January 14, 1873.<sup>20</sup>

The second American attempt to obtain a concession through the heart of Mexico was made by General William S. Rosecrans, who in 1868 became United States minister to Mexico. While in Mexico, Rosecrans sought to allay the fears of the authorities and to induce them to give their support to projects for lines extending through the country; and he attempted to obtain from the United States congress a charter for a company to further the economic development of Mexico. He also published a pamphlet in 1870—"Manifest destiny; the Monroe doctrine, and our relations with Mexico"—in which he emphasized the need for a policy of "Complete political, commercial and industrial fraternity among the republics of the New World."<sup>21</sup>

As a result on December 10, 1870, a concession was granted to a company formed in Rosecrans' interest by Anthony D.

<sup>19</sup> Act of the government of Mexico incorporating the Mexico and United States railway company. U. S., 40 cong. 2 sess., S. misc. doc. 104.

<sup>20</sup> Fomento, "Legislacion," I, no. 194, II, no. 259.

<sup>21</sup> Rosecrans, Memorial to the congress of the United States, 10 p. (1868?); and Manifest destiny, 23 p.



## THE RAILROADS OF MEXICO

Richards, James Smith, and Joseph Brennan for a line from a point on the Gulf between Tecalutla (in the state of Vera Cruz) and Tampico to a point on the Pacific coast between Zacatula (Guerrero) and San Blas. Provision was made for branch lines which should touch Pachuca, Querétaro, Morelia, and Guadalajara. This concession was amended in 1872 and declared void in 1873.<sup>22</sup>

Edward Lee Plumb, United States *chargé d' affaires* prior to the appointment of Rosecrans, was also an advocate of railroad development.<sup>23</sup> As the representative of the International railroad of Texas (International and Great Northern) he applied on September 26, 1872, for a concession for a railroad from Mexico to the Pacific and to the Rio Grande. Under date of May 29, 1873, he entered into a contract with the Secretary of *Fomento* for the construction of such a line. This was disapproved on November 11, 1873, by the Mexican congress which, however, authorized the government to make a contract with any other petitioner.<sup>24</sup>

During this period there were many others in the field seeking concessions. In April, 1872, we are told, "A large number of Americans were at this time in Mexico City, inquiring into railway and other interests in the Republic."<sup>25</sup> Among them was Robert B. Gorsuch, and also James Sullivan representing

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<sup>22</sup> Fomento, "Legislacion," I, nos. 225, 256, 276; Appleton's annual cyclopedia, 1872:532-3; Riva Palacio, "Historia de la administracion de Don Sebastian Lerdo de Tejada," 104-12, 187, 227-49, 304 (1875). See also Fomento, "Legislacion," I, no. 247, "Concession of December 28, 1871, awarding to General W. Rosecrans the right to establish a line of interoceanic communication from a point on the Gulf of Mexico to another on the Pacific ocean." Riva Palacio makes no reference to such a concession.

<sup>23</sup> U. S. Foreign relations, 1868:II, 390.

<sup>24</sup> Fomento, "Legislacion," II, nos. 254, 275, 280; Riva Palacio, 104-12, 252-7, 277-333; Appleton's annual cyclopedia, 1872; 532-3; U. S. Foreign relations, 1873-4:673-89, 1874: 723-4; Foster, Trade with Mexico, 10 (1873).

<sup>25</sup> Appleton's annual cyclopedia, 1872:532.

## RAILROADS INTRODUCED

Rosecrans' Union Contract company of Pennsylvania. These men, as well as representatives of the "Mexican company, Limited", desired concessions for a line from Mexico to the Pacific ocean and the Rio Grande. These were the companies indirectly referred to in the resolution of November 11, 1873, in which congress refused to approve the first contract with Plumb.

On November 20, 1873, a contract was made with the Mexican company, Limited. The route specified in this contract was from Mexico to the Pacific ocean and to the Rio Grande "and from a point on the line of the Vera Cruz railroad to the said ocean." The additional clause, in conjunction with the similarity of name, would seem to indicate that the concessionnaires represented English interests who were connected, if not identical, with those who were interested in the Mexican railway from Mexico to Vera Cruz; and such was the fact. United States Minister John W. Foster described the company as one "claiming to be Mexican in its organization and interests, but which in fact is composed of six Mexicans and eight foreigners." This concession was forfeited, May 4, 1874, because of failure of the promoters to raise capital in Europe.<sup>26</sup>

Before this action had been taken, a contract for the construction of an international and interoceanic railroad was made by the Mexican government with Angel G. D. Lascurian, Stephen Benecke, and Sebastian Camacho, representing the same interests, and this was approved on January 17, 1874.<sup>27</sup>

<sup>26</sup> Fomento, "Legislacion," II, nos. 282, 294; U. S. Foreign relations, 1874:718-9, 723-6, 751-2, 766; Macedo, 200-1; This company, commonly known as "The Fourteen," was made up of Antonio Mier y Celis, Pedro del Valle, Esteban Benecke, Angel Lascurian, Guillermo Barron, Miguel Rul, Cayetano Rubio, Miguel Lizardi, Pio Mermejillo, David Fergusson, Sebastian Camacho, Carlos Felix, Manuel Mendoza Cortina, and J. M. Landa. — Riva Palacio, 319. The foreign names had obviously been "Mexicanized."

<sup>27</sup> Fomento, "Legislacion," II, no. 288.

## THE RAILROADS OF MEXICO

This was followed, on December 5, 1874, by a concession which was granted to Sebastian Camacho, José Antonio Mendizabal, and company for a railroad from Mexico to Leon in the state of Guanajuato, passing through Querétaro, Celaya, Salamanca, and Guanajuato.<sup>88</sup> This company, "representing a mixed Mexican and English interest", took the name "Central Railroad of Mexico", and to it was granted the exclusive lottery privilege for the entire republic. The financial backers of this project, which was none other than the Mexican company, Limited, in a new guise, were Barron, Forbes, and company, an English firm resident in Mexico.<sup>89</sup>

Plumb also renewed his efforts, and on December 12, 1874, he entered into a second contract for a line from Leon to the Rio Grande, passing through Lagos, Aguascalientes, Zacatecas, Durango, San Luis Potosi, Saltillo, and Monterey; and this was approved on June 5, 1875.<sup>90</sup>

The Guaymas project now reappeared. On June 17, 1875, David Boyle Blair, "the representative of a joint American and English interest", received a concession for a railroad from Guaymas to the northern frontier of Sonora in the direction of Tuscon, Arizona. This concession was amended on November 3 of the same year.<sup>91</sup>

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<sup>88</sup> Ibid., nos. 298, 299, 304, 324.

<sup>89</sup> U. S. Foreign relations, 1875-6:853, 950; 1877:429; 1879:775, 781-2; Riva Palacio, 442-4.

<sup>90</sup> Fomento, "Legislation," II, nos. 300, 313; Riva Palacio, 451-3; U. S. Foreign relations, 1875-6:853, 893, 927-36.

<sup>91</sup> Fomento, "Legislacion," II, nos. 315, 323; U. S. Foreign relations, 1875-6:854-893.

## CHAPTER XII

### THE ORIGINAL DIAZ POLICY

IN 1876 Lerdo de Tejada, who succeeded Juarez in the presidency in 1872, was forced from office through a revolution, and Porfirio Diaz became provisional president. He at once attacked the railroad policy of his predecessor as unduly influenced by foreign interests. In his revolutionary program, issued on March 21, 1876, he objected particularly to the "Central" railroad concession upon the ground that it had been granted in the interest of the Mexican railway company and the English creditors of the government. On September 26, 1876, he issued a decree nullifying any contract made by his predecessor "which may result in any burden to the nation." The "Central" concessionnaires thereupon lost their concession through arbitrary forfeiture on December 26, 1876, and this involved the loss of the amount expended on the road and the return of the proceeds of the lottery. In view of these circumstances, Edward Lee Plumb abandoned his project and left the country.<sup>1</sup>

The Diaz government on June 19, 1877, transferred the Guaymas concession, originally granted to David Boyle Blair, to Sebastian Camacho, representing Robert R. Symon, an Englishman, and David Ferguson, an American. The concessionnaires on October 17 of the same year entered into a contract with the Secretary of *Fomento*, the new agreement

<sup>1</sup> U. S. Foreign relations, 1877:886-7, 892-3; 1879:774-81; U. S. Message of the president communicating . . . information in relation to the construction of railroads in Mexico, 1-10 (1879); *Fomento*, "Legislacion," II, nos. 326-7.

## THE RAILROADS OF MEXICO

providing that the northern terminus of the line might be located in either Sonora or Chihuahua; but when this came up for approval of congress in 1878 it was defeated. This action, however, did not affect the concession in the form in which it had been originally granted to Blair.\*

On November 12, 1877, the Secretary of *Fomento* entered into a contract with William J. Palmer, James Sullivan, and company for the construction of a railroad from the American border to Mexico with a branch to San Blas or Manzanillo, with a provision that the line to the Pacific should be completed before the one to the frontier was commenced.\* What followed may be stated in the words of John W. Foster, United States Minister:

"Notwithstanding this provision the charter was defeated in Congress by a decided majority; after which the Lower House voted almost unanimously to confer upon the Executive, authority to contract for a line to the Pacific only. The reasons given for this action were the bad policy and danger to the country of conferring such privileges upon an American company, and of extending railroad connections to the United States. The arguments presented by the principal speaker, Hon. Alfredo Chavero, one of the most experienced and influential men in the Republic, were that 'It was very poor policy, very injudicious to establish within our country a powerful American company,' that 'it is a natural law of history that border nations are enemies,' that 'nations of the North generally invade the nations of the South,' hence, 'we should always fear the United States'; and he closed with the following appeal, 'You, the Deputies of the States, would

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\* *Fomento*, "Legislacion," II, nos. 349-50, 359; U. S. Foreign relations, 1879:789-90; Message of the president, as above, 16-7; "Railroad Gazette," XI, 147-8 (1879).

\* *Fomento*, "Legislacion," II, no. 363.

## THE ORIGINAL DIAZ POLICY

you exchange your poor but beautiful liberty of the present for the rich subjection which the railroad could give you? Go and propose to the lion of the desert to exchange his cave of rocks for a golden cage, and the lion of the desert will answer you with a roar of liberty.' . . .

"After the defeat of the American charter referred to, the Congress conferred upon the Executive the power to make contracts with the Governors of States, or other authorities, for the construction of railroads within their respective limits. Under this authority the Federal Government has made thirteen different contracts and charters, and pledged Government subsidies thereto. These charters cover the most important and valuable portions of the route to the frontier of the United States."

The record as given thus far shows that except for a desire to protect the interests of the nation from exploitation at the hands of foreigners, the government had no railroad policy. In fact, such a consistent attitude was not to be expected in view of the frequent changes of government that preceded the advent of Diaz, and the internal disorder and external distrust that characterized the early years of the Diaz régime. By the end of Diaz' first term, however, the situation was changed, and the country entered upon a period of active railroad development.

Several events contributed to the change. One was the belated recognition of the Diaz government by the United States, thus removing the grounds for prejudice against

<sup>4</sup> U. S. Foreign relations, 1878:640. See also 550-2, 1879:776-7, 888, and Message of the president, as above, 10-6; Fomento, "Legislacion," II, nos. 372, 374, 388, III, nos. 489-90, 502.

No. 424, under date of December 6, 1878, is worthy of passing notice. It is a project for a "contract entered into between the United Mexican States and the creditors of the Republic for the construction of a railroad from the City of Mexico to the Pacific, and for the adjustment of the national debt and the payment of interest thereon." — Foreign relations, 1879:767-70. This was rejected by congress. — Macedo, 200-1.

## THE RAILROADS OF MEXICO

Americans seeking concessions in Mexico. Another was the publication of a report on "Trade with Mexico," written by the American Minister in 1878 in the form of a letter to Carlisle Mason of Chicago, president of the Manufacturers' Association of the Northwest.

This association had recently entertained the Mexican Minister at a banquet, to which Foster himself had been invited. Foster could not attend, but when he learned of the optimistic nature of the discussion and the resolution on the matter of trade relations between the two countries, he prepared a letter setting forth the results of his observations. This letter and its consequences can be best described in his own words:

"In the letter I discussed especially the impediments to such freer relations, which I found in the revolutionary character of the country, the want of protection to American citizens and capital, and the opposition manifested to railroad connection with the United States.

"My letter was sent to the Department of State, with the request that, if approved by the Secretary of State, it be forwarded to the Association, which was done. It was published in full in the Chicago papers, was reproduced in the annual volume of diplomatic correspondence,<sup>5</sup> and by resolution of Congress it was printed as a public document.<sup>6</sup> It thus had a wide circulation in the United States and was commended or criticized according to the views entertained as to the Mexican policy of our government.

"It reached Mexico at a time when the political excitement against the United States was at its height, and the criticism

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<sup>5</sup> U. S. Foreign relations, 1878:636-54.

<sup>6</sup> It was also published by the association under the title "Trade with Mexico—correspondence between the Manufacturers' Association and Hon. John W. Foster," Chicago, 1878. 44 p.

## THE ORIGINAL DIAZ POLICY

of the press was almost universally unfavorable. So much importance was attached to it by the government that Señor Matias Romero was employed to write a refutation, sections of which appeared daily for several weeks in the 'Official Journal,' and it was printed in book form, filling three hundred and fifty double-column full folio pages.<sup>7</sup> It was an able document, abounding in valuable statistics, but lost much of its usefulness for the purpose of its compilation by its prolixity.<sup>8</sup>

The preparation and publication of this letter of Foster's, far from being "a diplomatic mistake", as some critics have charged, was extremely fortunate; for it brought matters to an issue, and the discussion that followed served to bring out all the essential facts and arguments in the case.

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<sup>7</sup> Secretaria de Hacienda, "Exposicion de 15 de Enero 1879, sobre la condicion actual de Mexico, y el aumento del comercio con los Estados Unidos; rectificando el informe dirigido por el Honorable John W. Foster el 9 Octubre, 1878 al Carlile Mason de Chicago." Mexico, 1879, 849 p. Also in "Memoria," 1878-9:415-678. English version, New York, 1880, 325 p.

<sup>8</sup> Foster, Diplomatic memoirs, I, 115 (1909).





## CHAPTER XIII

### EARLY AMERICAN ATTITUDE TOWARD MEXICAN RAILROAD INVESTMENTS

WHEN in 1825 Joel Poinsett was sent to Mexico as the first United States minister he was instructed to obtain the co-operation of the Mexican government in the construction of an international highway from St. Louis to Mexico via Santa Fe. Thus improved overland communications, which would facilitate intercourse and trade between the two countries, early became the policy of the American government.

Half a century later, when the period of railroad building was at its height in the West, it seemed as if this policy could be made effective. It was a time when men of energy and daring were active in the movement that was soon to result in the elimination of the western frontier, and the removal of "The Great American Desert" from the map of the United States. These men had pushed lines of railroad out into uninhabited regions in which soon appeared flourishing towns and growing crops. With the gains resulting from one venture they embarked upon the next. Others like them were attracted to the pursuit of immediate wealth through the construction of railroads. It was a period in which optimism held sway, and fortunes were made through extensive rather than intensive development. At such a time, with such men, it was only natural that attention should have been directed to Mexico.

Nor were railroad promoters and builders alone in their

## THE RAILROADS OF MEXICO

interest in Mexico. The merchants of St. Louis and Chicago, who had profited from the opening up of the territory to the west, were active in encouraging the extension of lines which would put them in touch with new markets beyond the Rio Grande. The Chicago banquet, to which reference has been made, is evidence of such interest, which was so great as to impel John W. Foster to issue a word of warning.

Foster's letter is a statement of facts and tendencies as he saw them, unrelieved by any touch of faith in the statesman-like capacity of the men in control in Mexico. In later years he admitted that his picture had been overdrawn. However, it failed to counteract the spirit of enterprise that prompted the railroad invasion of Mexico. When he pointed out the ungenerous terms of the concessions that were proposed and the hostility of the legislative authority, he failed to discourage promoters who were not without experience with legislatures and whose hope was to sell out their concessions or their railroads before the objectionable terms should become embarrassing. His contrast between the proposed subsidies and the revenues of the Mexican treasury was equally unconvincing to those who had witnessed the great internal development which had resulted from the introduction of railroads in the United States.

Within three years after the Foster episode American interests had obtained concessions providing for the construction of five railroads aggregating over 2500 miles and subsidies amounting to \$32,000,000. Again counsels of prudence were urged, this time by F. E. Prendergast, who said:

"Unless Mexican revenues increase at a prodigious rate, it looks as if she were incurring obligations which it may be difficult to fulfill. . . .

"To those accustomed to the rapid progress of our Western States, it might appear that the opening up by railroads

## ATTITUDE TOWARD MEXICAN RAILROAD INVESTMENTS

of a great productive region, already possessing a considerable population, must result in the rapid development of a large and profitable business. But it is not a parallel case.

"The country to be opened up is old, and its population widely different from the energetic and enterprising races to whom that rapid progress is due. We are told of the vast resources and extent of Mexico, the business that must spring up, the favors granted by the government to projected railroads, and people point to the great capitalists whose names head the subscription lists, and whose fortunes are largely due to successful railroad management. . . .

"We believe in the ultimate development of Mexico, but we dread to see our citizens investing vast sums in schemes rather because, like Colonel Sellers, they think there must be millions in them, than from any careful consideration of their probable returns."<sup>1</sup>

During the year in which this article appeared, John Bigelow visited Mexico at the request of Samuel J. Tilden, who had become attracted by the idea of railroad promotion in that country. Upon his return he published the results of his observations in an article which was quite as pessimistic as the conclusions of Foster and Prendergast, which he restated and elaborated in convincing terms.

He admitted there was much wealth in Mexico, but he added, "the temptation to embark in railway enterprises in Mexico which have intoxicated many of the coolest heads in Wall Street and Threadneedle Street can hardly be said to have opened the purse of a single Mexican." He called attention to the lack of public lands in the country which could be offered as an inducement to immigration or as grants in aid of railroad construction. Subsidies, he pointed

<sup>1</sup> Prendergast, *Railroads in Mexico*, "Harpers' Magazine," LXIII, 276-81 (1881).

## THE RAILROADS OF MEXICO

out, were payable not in money but in revenue bonds whose yield was contingent upon the activity of foreign commerce, and they were coupled with such conditions as to make them of doubtful advantage. He declared:

“On general principles subsidies do not form the foundation on which to construct a sound railway system, but it is no doubt a wise policy for Mexico to make use of them to get roads built through her territory by foreign capital for one-third their actual cost. In offering subsidies, therefore, at the rate of six to eight thousand dollars a kilometer, she takes no risks; the more miles built at that rate in her territory the better for her. The risk is with the capitalist who places his money where the business that is to make his investment profitable is yet to be developed; where he is liable to have competing lines constructed faster than they can be needed; where, in case the government should become financially embarrassed, it would naturally begin its economies by suspending its subsidies, and in case of war, appropriate the road to its own uses at unremunerative rates. . . .

“It is feared by many that the Mexican government has already incurred more obligations of this sort than she has any fair prospect of being able to make good. If we do not share this opinion entirely, it is because we expect that the greater portion of the grants already issued will be forfeited. . . . There remains to be paid as subsidies under existing and still valid charters about ninety millions of dollars. This is a large liability for a government whose annual revenues are esteemed eminently prosperous when they reach twenty millions a year.”

His general conclusion, therefore, was, “There are so many elements of uncertainty to be reckoned with in these investments, especially if made under the auspices and in the

## ATTITUDE TOWARD MEXICAN RAILROAD INVESTMENTS

special interest of foreigners, that while they would unquestionably prove highly advantageous to Mexico, and might ultimately prove highly remunerative to stockholders, they should be caviare to all who have not money to invest which they can afford to lose.'"

Those in favor of American investments in Mexican railroads were also active in presenting optimistic statements. Matias Romero, remembered as Mexico's ablest minister to the United States, replied to Bigelow as he had done to Foster.<sup>8</sup> And Joseph Nimmo, a statistician at Washington, ably served as a propagandist in the interest of American railroad promoters; perhaps his most remarkable production was the pamphlet "Commerce between the United States and Mexico," which was issued as a government document. The financial press, always interested in new ventures, gave liberal attention to the various projects. Thus the prospective investor was amply supplied with the facts and arguments that were needed as a basis for decision.

The early eighties were years of optimism, and American capital flowed in increasing currents into Mexican railroads. The source of these funds was generally the larger financial interests, however; for it does not appear that the securities were generally taken by small investors. For such an extensive distribution, time is needed; and before the necessary time had elapsed, it became apparent that original estimates were inadequate and that too much reliance had been placed upon subsidies. In 1885 the Mexican government found it necessary to suspend the payment of subsidies, and although

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<sup>8</sup> Bigelow, The railway invasion of Mexico, "Harpers' Magazine," LXV, 745-57 (1882).

<sup>8</sup> Romero, Railways in Mexico, "International Review," XIII, 477-506 (1882).

## THE RAILROADS OF MEXICO

it made a partial resumption of payments a year later,<sup>4</sup> the American investor had become dubious about the possibility of obtaining great returns from money placed in a country where uncertainty was the general rule. Solomon Griffin reflected the general opinion when he said:

"Too much has been expected in Mexico and the United States from the introduction of railroads. The generous government concessions to the new lines were held to be a sort of patent plaster to draw Mexico into the front rank of progress. The result has been generally disappointing, but it is not in the least a surprise to any thoughtful person who is at all conversant with the local conditions. . . . It is clear that railroads are going to have a profitable career here, but it will have to be on a reasonable business basis."<sup>5</sup>

The field, therefore, was left to the interests already committed to the venture and to investors in Europe who were able and willing to place their funds with a view to a slow development and deferred returns.

Before proceeding to trace the actual construction of railroads in Mexico by Americans, it will be well to give some facts as to the extension of American railroads to the Mexican border. The Southern Pacific was completed eastward to Yuma, Arizona, in 1877, and to Deming, New Mexico, and El Paso in 1881. The Atchison, Topeka, and Santa Fe connected with the Southern Pacific at Deming in 1881. It obtained trackage rights over the line of the Southern Pacific from Deming to Benson, Arizona, and built a branch from Benson to Nogales, Arizona, which was reached in 1882. From Rincon, New Mexico, it built a line to El Paso, which

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<sup>4</sup> "Chronicle," XL, 752-3 (1885), XLIII, 88-90 (1886).

<sup>5</sup> Griffin, *Mexico of today*, 46 (1886).

## ATTITUDE TOWARD MEXICAN RAILROAD INVESTMENTS

was reached in 1881. The Texas and Pacific in 1882 effected a junction at Sierra Blanca, Texas, with the Southern Pacific, which had been pushed eastward from El Paso. The International and Great Northern was built to Laredo in 1882. The Galveston, Houston, and San Antonio in 1883 connected with the Southern Pacific, and also extended a branch from Spofford, Texas, to Eagle Pass the same year. These lines were all of standard gauge. The Texas-Mexican, a narrow-gauge line, was opened between Corpus Christi, Texas, and Laredo in 1881. The Chicago, Rock Island, and Pacific reached El Paso in 1900.





## CHAPTER XIV

### INFLUX OF AMERICAN CAPITAL

THE first American railroad in Mexico was built not with any idea of a "railroad invasion of Mexico" but as an incident in the attempt of Boston capitalists to extend the Atchison, Topeka, and Santa Fe to the Pacific coast and thus break the territorial monopoly of Collis P. Huntington and his associates in the Southern Pacific railroad. As the line of the Atchison was pushed westward it had come into conflict with William J. Palmer's Denver and Rio Grande project, with the result that by 1878 it was determined that while Palmer would be unable to build toward the Mexican border, the Atchison could not build into western Colorado. This meant that the future extension of the Atchison would be toward the southwest.

To Sebastian Camacho and his associates this situation presented an opportunity to obtain funds with which to utilize the Blair concession for a railroad from Guaymas to El Paso, with a branch to the Arizona border. This concession they offered to share with the Atchison interests, who in 1879 incorporated the Sonora railway company (*Ferrocarril de Sonora*) under an amendment to the Massachusetts laws passed for this particular purpose.<sup>1</sup>

Construction work was begun at Guaymas in 1880, and in 1882 the line was completed to the Arizona border at Nogales. In the meantime the Atchison had reached El Paso and Deming, at the latter point connecting with the Southern Pacific,

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<sup>1</sup> L. Mass. 1879, c. 274.

## THE RAILROADS OF MEXICO

which was being built toward the east. From Deming to Nogales the Atchison had planned to build a line of its own; but, instead, it accepted a "satisfactory proposal" made by Huntington for the joint use of the Southern Pacific track between Deming and Benson, and built the short connecting line from Benson to Nogales in 1881-2. This was more satisfactory to Huntington than to the Atchison interests, who at that time suffered the first of a series of defeats at the hands of that dominating figure among American railroad builders.

On September 14, 1880 the concession was amended so as to provide for a cash subsidy instead of a land grant;<sup>3</sup> but it still provided that the main line should run to El Paso. When, therefore, construction was continued to the north of Hermosillo instead of up the valley of the Sonora river, the Mexican government ordered the work stopped. This order was revoked, however, in view of the great difficulty of the El Paso route. In 1881 the Atchison acquired complete control of the Sonora.<sup>4</sup>

Before the Sonora was open to Nogales, an attempt was made to obtain a further modification in the terms of the concession, so as to extend to six years the time within which the El Paso line should be built. This was accomplished in 1883,<sup>4</sup> but the line was never built.

The leading spirit in the Sonora project was Thomas Nickerson, and Daniel B. Robinson was in charge of construction. These men were experienced railroad builders, well qualified to meet the difficulties that constantly arise in pioneer enterprises. In Mexico, however, they found difficulties new to them. Under the terms of their concession they

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<sup>3</sup> Fomento, "Legislacion," III, no. 517, IV, no. 766.

<sup>4</sup> A. T. and S. F., Report, 1880.

<sup>4</sup> Ibid., 1883; "Chronicle," XXXVII, 128 (1883).

## INFLUX OF AMERICAN CAPITAL

were compelled to begin work at Guaymas, and so they had to ship most of their rails and equipment around Cape Horn. Native labor was employed, but the supply was limited, and an adequate working force was recruited with difficulty. Skilled laborers and mechanics were brought in from the United States, as well as many negroes. "Not all the negroes had characters," wrote Cy Warman. "Many of them had two names and a razor, and when they distributed themselves among the natives on the night that followed pay day, thoughtful men slept in cellars. Idle Mexicans, jealous of the Americans, created or incited a riot at every opportunity."<sup>5</sup>

As a revenue-producer the Sonora was a disappointment, and as an outlet to the Pacific ocean it proved less valuable to the Atchison than the line which was soon extended to San Francisco under terms dictated by the Southern Pacific interests. Aside from its record as the first American railroad in Mexico, the sole importance of the Sonora is that it later served as the nucleus of the Southern Pacific Railroad of Mexico.

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<sup>5</sup> Warman, *The story of the railroad*, 214.



## CHAPTER XV

### MEXICAN CENTRAL

**T**HE year 1880 is memorable not only for the beginning of railroad construction in Mexico by Americans; it marked the change of the attitude of the Mexican government toward Americans as concessionnaires, as well as the organization of the Mexican Central railway company (*Ferrocarril Central Mexicano*) under the laws of Massachusetts. The incorporators represented the same interests as those behind the Atchison and Sonora projects, and Thomas Nickerson was the first president. On April 3, 1880, the Mexican government transferred to Robert R. Symon, agent of the company, the forfeited concession for a railroad from Mexico to Leon, originally granted to the Mexican Company, Ltd. (Camacho-Mendizabal) interests in 1874.<sup>1</sup> With the idea of bringing into harmony the various contracts that had been entered into between the national and state governments and of facilitating the construction of through lines, the Mexican congress on June 1, 1880, authorized the president to modify these contracts.<sup>2</sup> By this means unification of gauge was made possible. ✓

When the transfer of the Mexico-Leon concession was made to Symon, it was with the understanding that it should be amended so as to provide for a line to extend to Paso del Norte (or Jaurez), Laredo, and Guadalajara. The Palmer-Sullivan interests now attempted to outbid the Mexican Central for favor and to obtain a concession that would give them

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<sup>1</sup> Fomento, "Legislacion," III, nos. 470, 475, 500.

<sup>2</sup> Ibid., no. 495.

## THE RAILROADS OF MEXICO

this privilege. Another competitor appeared in the person of Nathaniel S. Reneau, who claimed to represent a Washington company backed by Jay Gould, Russell Sage, Thomas A. Scott, and others. Southern Pacific interests, led by Collis P. Huntington, were also active. Meanwhile the Mexican Central interests purchased a Guanajuato state concession, thus extending their right from Leon to Celaya. By this means they obtained an advantage; for while under the general law of June 1, 1880, the president could transfer state concessions to whomever he might wish, he was bound not to grant a concession that would parallel a route for which a concession was already in force. They had a further advantage in the support of Ramon Guzman, a leading banker and owner of the local traction lines in the City of Mexico, and of Sebastian Camacho, whose influence is evident from the number of concessions that he had already obtained from the Mexican government. To secure their existing concessions they began work on the line between Mexico and Celaya.

On September 8, 1880, Diaz awarded to the Mexican Central the desired concession for the construction of a line from Mexico to Leon and from Leon to Paso del Norte, uniting the cities of Querétaro, Celaya, Salamanca, Irapuato, Guanajuato, Silao, Aguascalientes, Zacatecas, Chihuahua, and Guadalajara, and this was confirmed by congress on November 8.\*

The Mexican Central then took over concessions from the states of Chihuahua, Aguascalientes, and San Luis Potosi, and on July 6, 1881,<sup>4</sup> received a concession for a line extending to Tampico. By an act of April 12, 1883, these concessions were consolidated.

Construction work was carried on in four divisions, and

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\* *Ibid.*, III, nos. 511, 533.

<sup>4</sup> *Ibid.*, IV., no. 682.

## MEXICAN CENTRAL

track-laying was begun on September 15, 1880. The track was opened to operation from Mexico to San Juan del Rio in 1881; to Lagos in 1882. At the northern end of the line work was begun in 1881, and regular trains were in operation as far as Chihuahua by the end of 1882. The entire line was completed on March 8, 1884.<sup>5</sup>

Construction of the Tampico line was begun in 1881, but progress was slow, and it was not completed until 1890.<sup>6</sup> The Guadalajara line was begun in 1884 and completed to Irapuato in 1888. Work was also begun at San Blas on a line to Guadalajara in 1882, but this part of the project was abandoned. Contrary to general practice the Mexican Central handled its construction work without the aid of a construction company.<sup>7</sup>

In 1905 the idea of a Pacific extension was revived, and in 1908 a line known as the Mexican Pacific was opened between Manzanillo and Tuxpan (Jalisco), connecting with main line through Guadalajara.<sup>8</sup>

The system was also extended through a series of mergers. In 1901 it took over the Monterey and Mexican Gulf, which had been opened in 1891 between Venadito or Reata, on the Mexican International, through Monterey to Tampico. In 1902 it absorbed the Mexico, Cuernavaca, and Pacific, which in 1899 had abandoned, at the Balsas river, the attempt to extend a line from Mexico to Acapulco. In 1905 it acquired

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<sup>5</sup> Brandt, *Railway invasion of Mexico, Ms.*, 73-100; Bradford, *Railroad building in Mexico, Association of Engineering Societies, "Journal,"* IV, 345-50 (1885).

<sup>6</sup> Carden, *Report on the Tampico branch of the Mexican Central railway, London, 1897*, 10 p.

<sup>7</sup> "Chronicle," XXXV, 516 (1882).

<sup>8</sup> *Archiv für Eisenbahnwesen*, XXXII, 1569-72 (1909); "Engineering News," LVII, 876-7 (1907); Martin, *Railways of Mexico, "Railway News,"* LXXXVI, 479-80, 582-3, 616-7 (1906).



## THE RAILROADS OF MEXICO

the Coahuila and Pacific, extending from Saltillo to Torreon, which had been completed in 1903. In 1905, also, it purchased a controlling interest in the Mexican National Construction company, which owned a line from Ojocaliente to Zacatecas and another from Manzanillo to Colima. It was this Manzanillo-Colima line which formed the basis for the extension to the Pacific coast.

✓ The Mexican Central was Mexico's greatest railroad. It spread over the country from the Capital to the northern border and from the Pacific to the Gulf. There were few cities of importance which it did not touch. It was heavily capitalized, however, and it failed to develop traffic to the extent that its promoters had expected, and it eventually passed out of Boston control. Mr. Clarence W. Barron, who was familiar with the project from the beginning, records the failure of the Atchison group as follows:

“When a generation ago the Boston people ploughed the railroad line from Atchison to Santa Fe and across the great American desert into California they had great hopes of traffic from the Mexican Central line they built from El Paso to connect with the City of Mexico, a thousand miles distant. They believed it would be a great feeder to the Atchison.

“In this they were disappointed, but they still had the courage to build a branch to Tampico, hoping therefrom to make a new port for the development of the interior of Mexico. . . .

“For years the Atchison folders printed the Mexican lines almost as their own. Today on the Atchison folders connections north even into Canada may be traced, but Mexico is a foreign country upon which the railroads need not waste paper in maps or timetables. A thumbnail corner in the Santa Fe map shows Mexico and on it from Mexico City to the Rio

## MEXICAN CENTRAL

Grande on the coast is a wilderness broken only by the harbor of Tampico.

“To all American lines meeting at El Paso the business in and out of Mexico has been for more than thirty years a disappointment.”\*

In 1906 the Mexican government obtained an option on the controlling shares held by H. Clay Pierce, and in 1909 the Mexican Central became a part of the government system of railways.

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\* Barron, *The Mexican problem*, 22 (1917).

The Atchison group was also interested in the Sinaloa and Durango railroad company, incorporated in Massachusetts in March, 1881, to operate under a concession obtained by Robert R. Symon on August 16, 1880. — *Fomento, "Legislacion,"* III, no. 506. This concession was extended on September 26, 1881. — *Ibid.*, IV, no. 728. Construction was begun in 1882 at Altata and continued to Culiacan, where it stopped in 1883. The Occidental railway company, organized in London, bought the property in 1892. — *Poor's Manual*, 1892:1120.



## CHAPTER XVI

### MEXICAN NATIONAL

WITHIN the week in which the Mexican Central received its concession, Diaz, with the idea that there was room enough in Mexico for more than one longitudinal line, also granted a concession to the Palmer-Sullivan interests operating under the name of the "Mexican National Construction company" (*Compañía constructora Nacional Mexicana*).<sup>1</sup> The date of this concession was September 13, 1880.

General Palmer, the head of this enterprise and the builder of the Denver and Rio Grande railroad, was an advocate of narrow-gauge railroads, particularly as a means of reaching mines in a rugged country. The name chosen for his Colorado line indicates his plan to extend to the Mexican border, —a plan which was frustrated by the Atchison interests, who obtained possession of the Raton pass after a contest that is memorable in American railroad history.

The route covered by the Mexican National concession was from Mexico through Toluca, Acambaro, Celaya, San Luis Potosi, Saltillo, and Monterey to Laredo, and from Mexico through Acambaro, Morelia, Zamora, Guadalajara, and Colima to the port of Manzanillo. By subsequent purchases of state concessions, the route was extended from Monterey to Matamoros, from San Luis Potosi to Lagos and Zacatecas, from Zacatecas to Guadalupe Hidalgo, and from Mexico to El Salto. The Texas-Mexican was also acquired in 1883.<sup>2</sup>

<sup>1</sup> Fomento, "Legislacion," III, nos. 508, 512.

<sup>2</sup> Ibid., II, nos. 394, 407, 428, III, nos. 484, 487, 497, 503, 513, 523-4, 548, 560.

## THE RAILROADS OF MEXICO

Work of construction was carried on simultaneously at different points, and as sections were completed they were taken over by the operating company, the Mexican National railway (*Ferrocarril Nacional Mexicano*), incorporated in Colorado, with General Palmer as president. The line from Laredo was opened to Monterey in 1882 and extended to Saltillo in 1883. From Mexico the line was open to Toluca in 1880, and through Acambro and Celaya to San Miguel de Allende in 1883. Work between Saltillo and San Miguel was not begun until 1886, and the main line from Mexico to Laredo was not completed until September 28, 1888. The line from Monterey to Matamoros was finished in 1905.

On the Pacific line work was also carried on from both ends. The section from Acambaro was carried through Morelia to Patzeuaro in 1886, and stopped at Uruapan. From Manzanillo the line was built as far as Colima by 1889, after which the project was abandoned.\*

Financial difficulties attended the construction of this system; and in 1882 arrangements were made with Mattheson and company of London which resulted in bringing in English and French capital.<sup>4</sup> In 1887 the Construction company's concessions were consolidated.<sup>5</sup>

In 1887 the Mexican National railway company was re-organized as the Mexican National railroad company, and control passed to the English holders of the bonds of the original company. It was the new company that completed the main line.<sup>6</sup> Title to the unfinished Manzanillo-Colima

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\* Brandt, *Railway invasion of Mexico*, Ms., 108-12; Bigelow, *Railway invasion of Mexico*, "Harpers' Magazine," LXV, 753-5 (1882).

<sup>4</sup> "Chronicle," XXXV, 108 (1882).

<sup>5</sup> *Ibid.*, XXXVI, 81 (1883).

<sup>6</sup> *Ibid.*, XLIII, 103, 598, XLIV, 369, 681, XLVII, 454 (1886-8).

## MEXICAN NATIONAL

line and to a short line between Zacatecas and Ojocaliente was retained by the Construction company.<sup>7</sup>

In 1901 the work of converting the main line to standard gauge was begun, but the financial condition of the company was such that in 1902 there was a second reorganization, and the control passed to an American company, the National Railroad company of Mexico, incorporated in Utah. The new company continued the work of reconstruction, which was completed in 1903.<sup>8</sup>

In 1900 the Mexican National leased the Michoacan and Pacific (*Ferrocarril Michoacan y Pacifico*), extending from Moravatia to Acampo with a branch to Anguagueo, which had been built in the early nineties by the Michoacan Railway and Mining company. In 1901 it acquired a controlling interest in the Mexican International. In 1903 it acquired control of the Interoceanic, but only under terms by which the Mexican government acquired control of the National itself. In 1906 the Hidalgo and Northeastern (*Ferrocarril Hidalgo y Nordeste*), extending from Mexico to Tortugas with branches to Pachuca and Irolo, was taken into the system.

The Mexican National in 1909 was merged in the National Railways of Mexico.

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<sup>7</sup> Ibid., XLVII, 709 (1888).

<sup>8</sup> Ibid., LXXIII, 784-5, 1112, LXXIV, 650, LXXV, 981, 1147, LXXVI, 594, LXXVII, 1747 (1901-8); Martin, Railways of Mexico, "Railway News," LXXXV, 990-1 (1906).



## CHAPTER XVII

### MEXICAN INTERNATIONAL

ON June 7, 1881, General John B. Frisbie, representing Collis P. Huntington and the Southern Pacific interests, acquired from the Mexican government in the name of the International Construction company, a concession for a railroad from Piedras Negras to Durango and from Durango through Zacatecas and Guanajuato to Mexico, with a branch through Nieves (Zacatecas) to a point on the Pacific coast between Mazatlan and Zihuatanejos (Guerrero), and another branch through San Luis Potosi to a point on the Gulf coast between Matamoros and Vera Cruz. This concession, when approved, was transferred to Huntington, acting for the construction company which was organized in Connecticut in March, 1881. Further concessions were obtained on November 4, 1881 and April 21, 1882. None of these concessions contained any provision for a subsidy, and their terms were correspondingly liberal.<sup>1</sup>

On April 26, 1882, the company was reorganized as the International Railroad company (*Ferrocarril Internacional Mexicano*) and a charter was obtained from the Connecticut legislature under date of April 26, 1882.<sup>2</sup>

Construction work was begun in earnest after the completion of the line of the Galveston, Houston, and San Antonio to Eagle Pass in 1883. In January, 1884, the track was laid as far as Monclova. The line was slowly extended,

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<sup>1</sup> Fomento, "Legislacion," IV, nos. 657, 672, 759, V, no. 822.

<sup>2</sup> Conn. Special acts, IX, 668-72.



## THE RAILROADS OF MEXICO

reaching Torreon in 1888, thus connecting with the Mexican Central. On October 1, 1892, the line was opened to Durango. From Durango construction continued parallel to the western Sierra Madre as far as Tepehuanas, which was reached in 1902.

In the meantime, Huntington, the leading spirit in the project, died, and control passed to the Mexican National in 1901.\*

The fact that this railroad was built without government aid accounts for the length of time required for its construction. It provided an outlet for the extensive coal deposits of Coahuila, and it contributed to the upbuilding of Mexico's iron smelting industry.

In 1910 the National Railways of Mexico, already in control of the Mexican National, acquired from the Southern Pacific company a large block of Mexican International shares, and the International as a company ceased to exist.

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\* Brandt, *Railway invasion of Mexico*, Ms. 112-5; "Chronicle," XLVI, 75, 320 (1888), LXXIII, 533, (1901); Mexican International Railroad, *Annual report*, 1892; 8-5; Bigelow, *Railway invasion of Mexico*, "Harpers' Magazine," LXV, 753-5 (1882); Martin, *Railways of Mexico*, "Railway News," LXXXV, 952-3, (1906); U. S. Department of War, *Monograph on Mexico*, 165-6 (1914).

## CHAPTER XVIII

### INTEROCEANIC

THE high rates charged by the Mexican railway in conjunction with its indifferent service finally had its natural result in the construction of the competing Interoceanic railway through Jalapa. This was not accomplished until after many persons had made attempts to construct segments of lines which should ultimately be connected into a great system. This is not surprising to one who recalls the efforts of the Mexican railway interests to pre-empt the concession for the first line from the Valley of Mexico toward the northern border and to interest men high in government favor in their enterprises.

The early history of the Interoceanic project is a narrative of petty concessions and of the construction of petty lines; of small corporations, which failing in their purpose, consolidated with others of like nature, which failed in turn. Little of this appears in the materials that are readily available. The facts are buried in the official documents and reports, and there they are presented with little regard to their interrelationships.

The earliest of these concessions dates from April 16, 1878. This was granted to the state of Morelos for a railroad from Mexico to Morelos and Cuernavaca and from one of those points to the Amacusac river. On October 5, 1878, this concession was transferred to the Mexico and Morelos railway company, the head of which was Manuel Mendoza Cortina.<sup>1</sup>

<sup>1</sup> Fomento, "Legislacion," II, no. 398; Secretaria de Fomento, "Memoria," 1877-82, III, 654-5.

## THE RAILROADS OF MEXICO

On November 27, 1880, the national government entered into a contract with the state of Morelos for the construction of a railroad from Los Reyes on the Morelos line to a connection with the Mexican railway at Irolo. This concession was transferred to Delfin Sanchez, who completed the line in 1882. Under a concession granted to Sanchez on December 23, 1881, a line from Los Reyes to Mexico was completed, also in 1882; and through communications were established between the Capital City and Irolo. In the meantime, a line had been extended from Irolo Calpulalpam (Tlaxcala) under a concession granted on January 21, 1882 to Francisco Arteaga for a railroad from Irolo to Puebla and thence to Matamoros Izucar and a connection with either the Acapulco or Morelos lines. This concession also was transferred to Delfin Sanchez on February 21, 1882.\*

On July 9, 1880, the national government entered into a contract with the state of Guerrero for a line from Acapulco to Mexico through Chilpancingo and Iguala, and this concession was transferred to Sanchez on February 12, 1881. The Sanchez projects were united October 19, 1882, under the name of the United Morelos, Irolo, and Acapulco railways.†

Under date of September 6, 1880, the states of Puebla and Vera Cruz entered into a contract with the national government for a railroad from Jalapa to San Andres Chalchicomula. This was then transferred to Ramon Zangroniz, who on December 11, 1880, also received a concession for a railroad from Jalapa to a port on the Gulf. An extension to the westward was provided for on June 27, 1881, when Francisco M. Prida, representing the same interests, received a national concession

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\* Fomento, "Legislacion," III, nos. 531, 538, IV, nos. 769, 782, 802, V, no. 807; Secretaria de Fomento, "Memoria," 1877-82, III, 673-8.

† Fomento, "Legislacion," III, nos. 501, 525, V, nos. 819, 888, 893; Secretaria de Fomento, "Memoria," 1877-82, III, 655, 690-1.

## INTEROCEANIC

for a railroad from San Andres Chalchicomula to a point on the line of the Morelos railway. On November 21, 1881, the three concessions were consolidated, and the National Interoceanic railway company, was organized by Zangroniz and Prida. On October 23, 1882, this company was consolidated with the United Morelos, Irolo, and Acapulco railways under the name of the Acapulco, Morelos, Irolo, and Vera Cruz Interoceanic railway.<sup>4</sup> This consolidated company in 1886 purchased from the national government the national railway of San Martin Texemelucan, extending from Puebla to San Martin in the direction of Irolo.<sup>5</sup>

Provision for another section of the line was made on September 14, 1880, when the state of Puebla entered into a contract with the national government for the construction of a railroad from Puebla eastward to a junction with the Mexican railway at San Marcos, and on September 30 of that year the state legislature authorized the transfer of the concession to Luis Garcia Feruel and Jacobo Ortiz Borballa.<sup>6</sup>

As early as 1881 the Jalapa route between Mexico and Vera Cruz was surveyed under the direction of Arthur M. Wellington, the celebrated American engineer,<sup>7</sup> but sufficient capital could be raised only for operations on a small scale. A company was organized in France to take up the project, but nothing was accomplished.<sup>8</sup>

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<sup>4</sup> Fomento, "Legislacion," III, nos. 504, 509, 519, 551, IV, nos. 676, 749; Secretaria de Fomento, "Memoria," 1877-82, III, 681-2.

<sup>5</sup> Secretaria de Fomento, "Memoria," 1877-82, III, 767-8; Poor's Manual, 1889:76.

<sup>6</sup> Fomento, "Legislacion," III, nos. 515, 520, 521, 537; Secretaria de Fomento, "Memoria," 1877-82, III, 694-5.

<sup>7</sup> Wellington, The American line from Vera Cruz to the City of Mexico via Jalapa, Amer. Soc. of Civil Engineers, "Transactions," 1886:XV, 791-848.

<sup>8</sup> U. S. Consular reports, XXXI, 90 (1889).

## THE RAILROADS OF MEXICO

On February 13, 1883 the several concessions were consolidated in one which was granted to Arteaga.\* At that time 255 miles had been constructed. The new concessions were amended on July 3, 1886.<sup>10</sup>

In 1888 the "Interoceanic Railway of Mexico (Acapulco to Vera Cruz)" (*Ferrocarril Interoceanico*) was chartered in England, and the new company took over the uncompleted sections between Mexico and Puebla, via Irolo and San Martin; Puebla and Jalapa, via San Marcos; and Jalapa and Vera Cruz; and options on the lines between Los Arcos and Matamoros Izucar and Mexico and Amacusac via Yautepec, which were purchased a few years later.<sup>11</sup>

In the interest of the company, Arteaga on July 1, 1889 obtained a concession for a railroad from Matamoros Izucar to Acapulco to join the Interoceanic at some convenient point.<sup>12</sup>

The line between Mexico and Vera Cruz was opened in 1891, and the other parts of the system were reconstructed and completed. In 1903 the Matamoras and Morelos branches were connected by a line extending from Atencingo and Cuautla; but the system has not been extended in the direction of Acapulco beyond Puente de Ixtle on the Amacusac river.<sup>13</sup>

In 1902 the Interoceanic acquired the San Marcos and Nautla railway, extending from San Marcos to Tezuitlan, and organized the subsidiary Mexican Eastern railway company (*Ferro-*

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\* Dublan, "Legislacion Mexicana," XVI, 453.

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<sup>10</sup> Ibid, XVII, 549.

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<sup>11</sup> Poor's Manual, 1889:76; 1893:1189; "Economist," LIX, 1368-9 (1901).

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<sup>12</sup> Great Britain, Diplomatic and consular reports, Misc. series, no. 170:2 (1890); U. S. Consular reports, XXXI, 91 (1889).

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<sup>13</sup> Martin, Railways of Mexico, "Railway News," LXXXV, 877-8, LXXXVI, 766-7 (1906).

## INTEROCEANIC

*carril Oriental Mexicano*) to take over the control. In 1909 it obtained a lease of the Mexican Southern railway. In the meantime, in 1903, the Mexican government acquired control of the Interoceanic, which it turned over to the Mexican National in exchange for a controlling interest in the National. In 1909 the Interoceanic control passed to the National Railways of Mexico, but the corporate identity of the company has been maintained.



CHAPTER XIX  
MEXICAN SOUTHERN

THE Mexican Southern railway (*Ferrocarril Mexicano del Sur*), now a subsidiary of the Interoceanic, as a project dates back to August 25, 1880, when the government of the state of Oaxaca received a concession for a railroad—the Mexican Meridional—from the port of Anton Lizardo on the Gulf through Tehuacan, Oaxaca, and Tehuantepec to Port Angel on the Pacific.<sup>1</sup> As agent of the state of Oaxaca, Matias Romero transferred this concession to the Mexican Southern railroad company, incorporated in New York by General U. S. Grant in 1881.<sup>2</sup>

Grant had visited Mexico early in 1880. While in Mexico ✓ and after his return to New York he advocated the construction of railroads as the best means of developing the resources of the country. To Romero came the idea that this could be best accomplished by bringing the rival American interests into harmony and in association with a man of Grant's great prestige and strong financial backing. This was found to be impossible, and the Mexican Southern project was launched as a separate enterprise.

The list of incorporators included the names of representatives of the Atchison, Southern Pacific, and Gould interests, but there was no affiliation with the Palmer-Sullivan group.

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<sup>1</sup> Fomento, "Legislacion," III, no. IV, 641, V, no. 778.

<sup>2</sup> L. N. Y. 1881, c. 86; Nimmo, Trade between Mexico and the United States, 39-40 (1884); Romero, "Informe respecto el ferrocarril de Oaxaca" (1881).



## THE RAILROADS OF MEXICO

Gould was planning a Mexican extension to serve as a feeder for his Southwestern system, the corporate name being the Mexican Oriental, Inter-oceanic, and International railroad company. His concession, granted to Francis De Gress on November 5, 1881, provided for a line from the Rio Grande, through Victoria, to the City of Mexico, as well as several branches.<sup>2</sup> With the consent of the Mexican government this project became affiliated with that of the Mexican Southern in May 1883, but a receiver was appointed in March 1884 and the concession was soon forfeited.<sup>3</sup>

In the meantime Grant had obtained an amendment to his concession which provided for a line from Tehuantepec to the Guatemala border and also a concession for an extension into Guatemala, but in May 1884 came the Grant and Ward failure in New York, and with it the collapse of the original Mexican Southern project.<sup>4</sup>

The Grant concession then passed to General Joaquin de Mier y Teran of Oaxaca. On April 21, 1886, it was amended so as to provide for a route from Puebla to Oaxaca. In May, 1888, it was acquired in the name of H. Rudston Read, of the British contracting firm of Read and Campbell, who obtained amendments in 1889 and 1891. On May 9, 1889, the Mexican Southern railway company was incorporated in London.

Construction was begun without delay, and the line was completed from Puebla to Oaxaca in November 1892. Two short branches out of Oaxaca were constructed, one as late as 1911; and the tramline between Tehuacan and Esperanza was

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<sup>2</sup> U. S. Foreign Relations, 1881:780.

<sup>3</sup> "Chronicle," XXXVI, 623, XXXVII, 99 (1883), XXV VIII, 359 (1884).

<sup>4</sup> Brandt, *Railway invasion of Mexico*, Ms. 28-36, 116-20; Romero, *Speech on the 65 anniversary of U. S. Grant* (1887).

## MEXICAN SOUTHERN

acquired from the state of Puebla in settlement of a claim for an unpaid subsidy.<sup>5</sup>

In 1909 the Interoceanic obtained a lease of the property from January 1910 to the expiration of the concession in 1982.<sup>6</sup>

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<sup>5</sup> "Mexican Financier," XVIII, 432-6 (1891); "Engineering News," XXVI, 174-5 (1891); Martin, Railways of Mexico, "Railway News," LXXXV, 1030-1, 1072-8 (1906).

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<sup>6</sup> "South American Journal," LXVII 98 (1909); Mexican year book 1914:48-9; Martin, Mexico as a field for investment, "Financial Review of Reviews," no. 46:33-5, (1909).



CHAPTER XX  
TEHUANTEPEC

THE opening of a line of communication across the Isthmus ✓  
of Tehuantepec was proposed in the time of Cortez, and a survey of a route for a canal was made in the eighteenth century. As early as November 4, 1824, the Mexican government took steps to attract proposals,<sup>1</sup> and on March 1, 1842, a concession was granted to Jose Garay for a railroad line. This was amended in 1846.<sup>2</sup>

Garay's concession was sold in 1848 to the English firm of Manning and Mackintosh, who, unable to finance the project, assigned it to Peter A. Hargous of New York in 1849. The Tehuantepec railroad company was then incorporated in Louisiana, and a survey was made in 1850 under the direction of General John G. Barnard. An elaborate report of this survey was published in 1852.<sup>3</sup> Before construction work could be begun, the Mexican government, fearful of American influence, declared the concession void in 1851.<sup>4</sup> The result of this action was to divert the attention of promoters to a rival line, and a railroad was constructed across the Isthmus of Panama during 1850-5, thus making it more difficult to obtain capital for the Tehuantepec project.<sup>5</sup>

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<sup>1</sup> Fomento, "Legislacion," I, no. 1.

<sup>2</sup> Ibid., nos. 3, 6. (See also nos. 8, 11-2, 14).

<sup>3</sup> Barnard, *The Isthmus of Tehuantepec*, (1852); Corthell, *The Tehuantepec route*, "Railroad Gazette," XXXVII, 154 (1904); Martin, *Railways of Mexico*, "Railway News," LXXXV, 379, LXXXVI, 167-8 (1906).

<sup>4</sup> Fomento, "Legislacion," I, no. 16; Seward, *Relations with Mexico*, and the transcontinental railroad (1853).

<sup>5</sup> Corthell, as above, 154-5. [149]

## THE RAILROADS OF MEXICO

Further attempts were made by the government to solicit proposals in 1842,<sup>6</sup> and on February 5, 1853, a second concession was issued to A. G. Sloo and company, composed of Americans and Mexicans. This was declared forfeited in 1857.<sup>7</sup>

A third concession was granted, September 7, 1857, to the Louisiana Tehuantepec company. This was amended in 1859 and 1860; and on October 12, 1866, the concessionnaire corporation got permission from the Maximilian government to change its name to the New York-Tehuantepec Steamship and Railroad company.<sup>8</sup>

On October 15, 1866, following the fall of Maximilian, the concession was forfeited and transferred to the Tehuantepec Transit company, controlled in the United States, which in turn lost it through forfeiture in 1867.<sup>9</sup>

The next concession was granted on October 6, 1867, to Emile La Sere, an American, as agent of the Tehuantepec railway company, incorporated by Simon Stevens in Vermont. This was amended in 1869, and on December 14, 1870, the construction of a canal was authorized.<sup>10</sup> However, construction work on a railroad was begun in 1870. Both the railroad and canal concessions were revalidated on May 22, 1872, and a subsidy was granted in 1874 to the Tehuantepec railroad

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<sup>6</sup> Fomento, "Legislacion," I, nos. 22, 24-6.

<sup>7</sup> Ibid., nos. 29, 59. (See also no. 30); Secretaria de Fomento, "Memoria," 1857:21; Corthell, as above, 155.

<sup>8</sup> Fomento, "Legislacion," I, nos. 60, 64, 70, 159-60; Corthell, as above, 155; Rippey, *Diplomacy of the United States and Mexico regarding the Isthmus of Tehuantepec*, "Mississippi Valley Historical Review," VI, 503-31 (1920).

<sup>9</sup> Fomento, "Legislacion," I, nos. 161, 168; U. S. Message of the president communicating . . . correspondence on the subject of grants to American citizens for railroad and telegraph lines across the territory of the Republic of Mexico (1867); Corthell, as above, 155.

<sup>10</sup> Fomento, "Legislacion," I, nos. 169, 192, 228. (See also nos. 193, 196); The Tehuantepec railway (1869); Corthell, as above, 155.

## TEHUANTEPEC

company.<sup>11</sup> In 1879, both La Sere concessions were declared void.<sup>12</sup>

Edward Learned of New York received from the Diaz government the next concession, June 2, 1879, through the activity of Hayden H. Hall. He constructed about twenty-two miles of railroad on the Atlantic side, but his concession was forfeited in 1882 because of expiration of the time limit.<sup>13</sup>

The Gonzales government settled with Learned, and proceeded to construct the railroad through a contract with Delfin Sanchez in 1882.<sup>14</sup> In this way about sixty-six miles of track were constructed in two sections, most of the mileage being on the Pacific side. This contract was abrogated in 1888. Resort was now had to a foreign loan, and government bonds were sold to a German syndicate which disposed of them in Berlin, Amsterdam, and London. The government entered into a contract with Edward McMurdo of London, who died within the year, and the contract was abrogated in 1892.<sup>15</sup>

On February 27, 1892, the government made a second contract for the work; this time with Joseph H. Hampson, Chandos S. Stanhope, and Elmer L. Corthell. The proceeds of the loan were insufficient, and the contract was dissolved by mutual agreement in 1892. A new loan was negotiated in 1893, and the work was continued. On December 6, 1893, a new contract was made with Stanhope, who completed the railroad on October 15, 1894.<sup>16</sup>

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<sup>11</sup> Ibid., II, nos. 230, 232, 252, 301. (See also nos. 416, 426).

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<sup>12</sup> Ibid., III, nos. 441-2.

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<sup>13</sup> Ibid., III, no. 444, V, no. 868; U. S. Foreign relations, 1879; 778, 790-9; Corthell, as above, 155.

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<sup>14</sup> Fomento, "Legislacion," V, nos. 888, 887.

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<sup>15</sup> Corthell, as above, 155; Martin, as above, LXXXV, 379 (1906); "Chronicle," XXXV, 557 (1882).

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<sup>16</sup> Corthell, as above, 155; Martin, as above, LXXXV, 379; Terry, The Tehuantepec railway, "Engineering Magazine," XXXII, 535-50.

## THE RAILROADS OF MEXICO

The operation of the railroad was assumed by the government. It was found, however, that the construction work had been poorly done, and that adequate terminal facilities would be required to bring the enterprise to a paying basis. In 1898 and 1899 the government entered into contracts with S. Pearson and Son, Ltd., to reconstruct the railroad and to build harbor works and port terminals at Salina Cruz and Coatzacoalcos (or Puerto Mexico). The line was formally opened to traffic on January 1, 1907.

For the operation of the railroad and terminals a partnership agreement was entered into by the government and the Pearson interests under the name of the National Railway Company of Tehuantepec (*Ferrocarril Nacional de Tehuantepec*). The contracts were dated, May 16, 1902; May 20, 1904; and May 7, 1908, and the arrangement was for a term expiring in 1953.<sup>17</sup>

In 1905 a traffic contract was arranged between the National Railway of Tehuantepec and the American-Hawaiian Steamship company, for the handling of sugar to the amount of 250,000 to 300,000 tons annually, but with the opening of the Panama canal traffic fell off.<sup>18</sup>

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<sup>17</sup> Corthell, as above, 155-7; Martin, as above, LXXXV, 437-9; "Modern Mexico," VII, 18-9 (1899); XIX, 21 (1909); "South American Journal," LXV, 178-9 (1908); U. S. Senate Committee on Foreign Relations, Hearings . . . to investigate whether any interests have been or are now engaged in inciting rebellion in Cuba and Mexico; 778-80 (1913) See also Muller, Report on the Mexican Isthmus (Tehuantepec) railway, (1907); and Peimbert, "Ferrocarril nacional de Tehuantepec," Secretaria de Fomento, "Boletín," VI, 87-152 (1906).

<sup>18</sup> "Chronicle," LXXX, 560 (1905); "Railroad Gazette," XXXIX, 74 (1905); "South American Journal," LXII, 106, (1907).

No attention has been paid here to the ship-railway project of Captain J. B. Eads, which received much publicity but no support during the eighties.

## CHAPTER XXI

### TEHUANTEPEC CONNECTIONS, NORTH AND SOUTH

LONG before the Tehuantepec was more than a project, plans were under way for a rail and river connection between the Isthmus line and the City of Mexico; and on March 26, 1875 the state of Vera Cruz received a concession for a narrow-gauge railroad from Vera Cruz to the port of Alvarado and from the San Juan river to Minatitlan.<sup>1</sup> The line to Alvarado was built, but the other line was not. Instead, the Tehuantepec built a branch from Juile to San Juan Evangelista on the San Juan river. The Alvarado line, known as the Vera Cruz (Mexico) railway (*Ferrocarril Veracruz y Alvarado*), completed the connection by means of steamboats. This line is owned by S. Pearson and Son, Ltd.

To link up the Tehuantepec line with the railroads to the north was also the purpose of the Vera Cruz and Pacific railroad company (*Ferrocarril Veracruz al Pacifico*), which was incorporated in West Virginia on February 28, 1898. The concession, dated March 15, 1898, provided for a line from Cordoba, on the Mexican railway, to a junction with the Tehuantepec at Santa Lucrecia, and a branch from the main line to Vera Cruz.<sup>2</sup> This branch joins the main line at Tierra Blanca. On account of the difficulties involved in construction, the company became embarrassed, and control passed from the original concessionnaires to the Maryland Trust company. Upon the receivership of that company, the Mexican govern-

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<sup>1</sup> Fomento, "Legislacion," II, nos. 391, 410, 430, III, nos. 452, 541.

<sup>2</sup> Dublan, "Legislacion Mexicana," XXXI, 167-9.



## THE RAILROADS OF MEXICO

ment in 1904 acquired the property in return for a small outlay in cash and a guarantee of the outstanding bonds. The Vera Cruz and Isthmus railroad company (*Ferrocarril Veracruz al Istmo*) was then organized under Mexican laws as an operating company, the corporate existence of the original company being continued.\* In 1910 the National Railways of Mexico took over the controlling shares which had been held by the government, and in 1913 the Vera Cruz and Isthmus was merged in the National system.<sup>4</sup>

On the Pacific side of the Isthmus the Tehuantepec connects with the line of the Pan-American railroad company (*Ferrocarril Pan-Americano*) at San Geronimo. This company, incorporated in New Jersey in 1901, has a concession, dated September 11, 1901, for a line from San Geronimo to Puerto Arista and the Guatemala boundary.<sup>5</sup> The line was completed on April 1, 1909. Its importance is largely prospective, for a satisfactory arrangement for crossing the Suchiate river and effecting a direct connection with the Guatemala Central is yet to be made.

Interests affiliated with the Pan-American obtained a concession for a line north-eastward through the State of Chiapas to Yucatan, where a connection would be effected with the United Railways of Yucatan.

In 1910 the Pan-American control was purchased by the National Railways of Mexico from David E. Thompson, former United States ambassador to Mexico and chief promoter of the enterprise.<sup>6</sup>

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\* "Economist," LXII, 988 (1904); Martin, *Railways of Mexico*, "Railway News," LXXXV, 610-1 (1906); Mexican year book, 1914:58.

<sup>4</sup> National Railways, Annual reports, 1910-14.

<sup>5</sup> Verdugo, "Coleccion legislacion," XXX, pt. 2:117-21.

<sup>6</sup> Conley, *Making a system of Mexican railroads*, "Railway Age," XLII, 844-5 (1906); Enock, *Mexico*, 348 (1909); National Railways, Annual reports, 1910-14.

## TEHUANTEPEC CONNECTIONS, NORTH AND SOUTH

Between the Tehuantepec line and the Yucatan system of railroads a connection has yet to be made, though there have been several attempts to launch such an undertaking.

The Yucatan system itself is a group of small railroads designed to put the sisal plantations in touch with the coast. There is little in its history that is of interest. The oldest line is that which connects Merida, the state capital, with the port of Progreso. It was built in 1881 under a concession dated April 22, 1874,<sup>7</sup> and reconstructed in 1903. It was extended inland from Merida to Zgmal in 1890 under a concession granted on May 15, 1884.<sup>8</sup> It is of standard gauge.

The other Yucatan lines are of narrow gauge. Of these the Merida and Valladolid was authorized December 15, 1880,<sup>9</sup> and completed in 1906. This line also has a branch from Merida to Progreso. The Peninsula line, connecting Merida with the port of Campeche, is based upon two concessions granted December 20, 1880 and February 23, 1881,<sup>10</sup> and consolidated in 1889. It was completed in 1898.

In 1902 the United Railways of Yucatan (*Ferrocarriles Unidos de Yucatan*), a Mexican corporation, was organized to take over these three lines, together with two pier companies at Progreso. This company in 1908 absorbed the Merida and Peto line, which had been built under a concession dated March 27, 1878.<sup>11</sup>

Under consolidated management service was greatly extended and improved, new equipment installed, and much of

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<sup>7</sup> Fomento, "Legislacion," II, nos. 298, 306.

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<sup>8</sup> Dublan, XVI, 727.

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<sup>9</sup> Fomento, "Legislacion," III, no. 557.

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<sup>10</sup> Ibid., III, nos. 516, 559, IV, no. 592.

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<sup>11</sup> Ibid., II, no. 392, III, 449, 468.

## THE RAILROADS OF MEXICO

the roadway reconstructed. It was only after the consolidation that separate trains were run for passengers and passenger cars equipped with air brakes.

The system was largely built by Mexicans, and it is owned by Mexicans, though foreign investors are largely interested in its securities. <sup>12</sup>

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<sup>12</sup> "Modern Mexico," XXI, 89-40 (1906); Mexican year book, 1914:56-7.

## CHAPTER XXII

### WESTERN SIERRA MADRE PROJECTS

SOMETHING has been said already of the early projects for railroads across the Western Sierra Madre. It remains to present in summary form the history of later attempts. In 1897 the Rio Grande, Sierra Madre, and Pacific railroad company (*Ferrocarril Rio Grande, Sierra Madre, y Pacifico*) was organized in New York by E. D. Morgan, Levi P. Morton, and associates, to operate under a concession, granted March 24, 1896, for a line from Juarez to Corralitos, with an extension to Magdalena on the Sonora railway.<sup>1</sup> The line from Juarez to Corralitos was opened in 1897 and later extended to Terrazas.

In 1897 the Chihuahua and Pacific (*Ferrocarril Chihuahua al Pacifico*) was incorporated in New Jersey by Grant B. Schley and associates to build westward from Chihuahua under a concession confirmed June 6, 1892.<sup>2</sup> This company in 1899 completed a line from Chihuahua to Miñaca, near the foot of the mountains,<sup>3</sup> and in 1905 extended a branch north-westerly from a point near Miñaca to Temosachic.<sup>4</sup>

Control of the Rio Grande, Sierra Madre, and Pacific passed in 1905 to the Greene mining and lumber interests, who organized the Sierra Madre and Pacific (*Ferrocarril*

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<sup>1</sup> Dublan, "Legislacion Mexicana," XXVI, 74; "Chronicle," LXIII, 459 (1896), LXIV, 611, 1138 (1897).

<sup>2</sup> Dublan, XXII, 189-99; "Chronicle," LXVI, 573 (1898).

<sup>3</sup> "Chronicle," LXXI, 181; Lavis, Construction of the Chihuahua and Pacific, "Engineering Record," IV, 241-3 (1907).

<sup>4</sup> Martin, Railways of Mexico, "Railway News," LXXXVI, 122 (1906).

## THE RAILROADS OF MEXICO

*Sierra Madre y Pacifico*) and acquired concessions designed to link up the Rio Grande, Sierra Madre, and Pacific and the Chihuahua and Pacific, and also to extend to Guaymas and Agiabampo on the Sonora coast.<sup>5</sup>

In 1909 a group of Canadians, led by Dr. F. S. Pearson, acquired all three undertakings and incorporated in Canada the Mexico North Western railway company (*Ferrocarril Nor-Oeste de Mexico*). The new interests also acquired the Sierra Madre Land and Lumber company, and obtained from the Mexican government a consolidated concession.<sup>6</sup> The gap between Terrazas and Madera was closed in 1912, thus opening a new through route between Juarez and Chihuahua.<sup>7</sup>

In 1902, before the control of the Chihuahua and Pacific passed from the original owners, trackage rights over that part of the line from Chihuahua to Miñaca were obtained by the Kansas City, Mexico, and Orient railroad company (*Ferrocarril Kansas City, Mexico, y Oriente*). This company had been incorporated in Kansas in 1900 by Arthur E. Stilwell to build from Kansas City to Topolobampo (Sinaloa), crossing the Rio Grande at Presidio del Norte, Texas, and El Oro (Chihuahua) under concessions granted July 27, 1900. On July 27, 1906, these concessions were consolidated.<sup>8</sup>

Construction was begun on three different sections of the route, and when in March, 1912, work was suspended, three disconnected segments had been completed in Mexico. These run from Topolobampo to El Fuerte in Sinaloa, from Sanchez

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<sup>5</sup> "Railway Age," XLIV, 803 (1907).

<sup>6</sup> Verdugo, "Coleccion Legislativa," XLI, pt. 2:570-8; "Chronicle," LXXXIX, 476 (1909); "Statist," LXIII, 503-4 (1909).

<sup>7</sup> "Chronicle," XCIV, 1627, XCV, 478 (1912), XCVI, 285, 1229, XCVII, 595, (1913).

<sup>8</sup> Dublan, XXXII, 230-2; Verdugo, XXXVII, pt. 2:1194-8.

## WESTERN SIERRA MADRE PROJECTS

to Miñaca, and from Tolopobampo to Marquez in Chihuahua, altogether 226 miles.\*

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\* "Chronicle," LXXIII, 662 (1901), LXXV, 1253-4 (1902), LXXXI, 559 (1905), XCIII, 1105 (1911), XCIV, 698, XCV, 297, 1123 (1913); "Engineering News," XLIX, 80-1 (1903); "Railway Age," XXXV, 441-4 (1903), XLIV, 808 (1907), XLV, 759-62 (1908); "Engineering and Mining Journal," LXXXVII, 712 (1909).



## CHAPTER XXIII

### SOUTHERN PACIFIC

IN 1898 the Atchison, Topeka, and Santa Fe leased the Sonora railway to the Southern Pacific company, which thus obtained access to the port of Guaymas. In 1903 the Southern Pacific acquired control of the Cananea, Yaqui River, and Pacific (*Ferrocarril Cananea, Rio Yaqui, y Pacifico*), which had built a short line from Naco on the Sonora-Arizona boundary to the mining camp of Cananea under a concession granted in 1900.

On October 27, 1905, the Southern Pacific interests obtained a concession for a line from Guaymas to Guadalajara.<sup>1</sup> In 1909 the Southern Pacific Railroad of Mexico (*Ferrocarril Sud-Pacifico de Mexico*) was incorporated to take over the lease of the Sonora and the operation of the Cananea, Yaqui River, and Pacific. Two years later it obtained ownership of the Sonora in exchange for the Needles-Mojave line in California,—a transaction that is unique in railroad history; and it assumed operation of the Sonora in 1912.<sup>2</sup>

The extension from Guaymas was begun in 1905 and completed to Mazatlan in 1909. When in 1913 construction work was suspended, it had been pushed southward to Tepic. From Orendain an isolated section had also been built as far north as La Quemada (Jalisco), leaving a gap of about one hundred miles through an extremely difficult terrain. At Orendain a connection was made with the Guadalajara-San

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<sup>1</sup> Verdugo, "Coleccion Legislativa," XXXV, pt. 2:1501-7.

<sup>2</sup> "Chronicle," LXXXVIII, 1622 (1909), XCVI, 560 (1913).



## THE RAILROADS OF MEXICO

Marcos extension of the old Mexican Central, thus preparing the way for through communication between northwestern Mexico and the City of Mexico. On November 3, 1910, however, the Southern Pacific interests received a concession for an independent line from Guadalajara to Mexico City.<sup>3</sup> In 1909 provision was made for an extension from Guadalajara to the Isthmus of Tehuantepec, through concessions obtained from the states of Jalisco, Michoacan, and Oaxaca.<sup>4</sup>

Branch lines have been constructed from Quila to El Dorado in Sinaloa and from Navajoa to Alamos and from Corral to Tonichi in Sonora, the last designed to connect ultimately with the original line of the Cananea, Yaqui River, and Pacific. The only connection now between the two parts of the system is through a branch that has been constructed from Nogales to Del Rio.<sup>5</sup>

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<sup>3</sup> Verdugo, XLI, pt. 2:255-68; "Chronicle," XOI, 1770 (1910).

<sup>4</sup> "South American Journal," LXVI, 150 (1909).

<sup>5</sup> "Chronicle," LXIV, 609, LXV, 518 (1897) LXVII, 642 (1898), LXXXI, 1786 (1905), XCVI, 568 (1913); "Railroad Gazette," XLII, 458-9 (1907); "Railway Age," XLIV, 802-3 (1907); Tays, The new railroad for the west coast of Mexico, "Engineering and Mining Journal," LXXXI, 661-3 (1906).

CHAPTER XXIV  
MINOR LINES

**T**HERE are many short lines in Mexico concerning which little is known. Some of them are of only local importance, some are vestiges of projects that failed, and some are elongated spurs which have been built to serve particular industries. Their importance cannot be measured by their mileage; for some of them undoubtedly will serve as the basis of more ambitious projects as the country develops, and many of them provide the means for getting to market the products of the rich mines with which the country abounds.

Not only is there little available information about these small railroads, but such information as we have is generally conflicting. Their concessions, of course, are matters of official record, but one who would attempt to prepare a complete and accurate statement as to the identity of their builders, the history of their construction, their cost, capitalization, investment returns, or even their mileage, would soon find that his efforts might well be directed to more important and productive fields of research.

One of these lines is the Mexican Northern (*Ferrocarril Mexicano del Norte*), standard gauge, which was opened in 1891 between Escalon (Chihuahua), on the main line of the Mexican Central, and the mining camp of Sierra Mojada (Coahuila). The company was incorporated in New York in 1890 by Robert S. Towne, George Foster Peabody, and associates, and its concession was granted March 20, 1890. The line is operated under lease by the American Metals ✓

## THE RAILROADS OF MEXICO

Company. It promises to become more important with the opening of the new extension of the National Railways from Cuatro Cienegas to Sierra Mojada.

Another short line is the Nacozari railroad (*Ferrocarril de Nacozari*), the Mexican extension of the El Paso and South Western from Agua Prieta to Nacozari (Sonora). It was built in 1901 under a concession dated August 30, 1899, and it is owned by the Phelps, Dodge mining interests. In time it may be connected with the branch of the Southern Pacific which now stops at Tonichi.

The Parral and Durango (*Ferrocarril Parral y Durango*), incorporated in Colorado in 1898, owns a standard gauge line from Minas Nuevas (Chihuahua) to Paraje Seco (Durango), built under a concession granted June 29, 1898. From Rincon there is a narrow gauge branch to Parral, where connection is made with the Parral branch of the old Mexican Central.

The Potosi and Rio Verde (*Ferrocarril Potosi y Rio Verde*), narrow gauge, was built from San Luis Potosi to Ahuacatal in 1899-1902 by a company incorporated in New York in 1888 to operate under a concession granted November 4, 1886. It is owned by the *Compania Metalurgia Mexicana*, an American corporation.

Little has found its way into print concerning the Coahuila and Zacatecas railway (*Ferrocarril Coahuila y Zacatecas*), which is a narrow-gauge line, built 1900-1, between Saltillo and a mining camp at Concepcion del Oro. It is owned outright by the Mazapil Copper company, a British close corporation, and its affairs are without interest to outsiders.<sup>1</sup>

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<sup>1</sup> For information, generally fragmentary, on these and other minor lines, see: Martin, *Railways of Mexico*, "Railway News," LXXXV, 319-20, LXXXVI, 122-3 (1906); Butman, *Report on trade conditions in Mexico*, 20-1 (1908); Mexican year book, 1914:44-58.

## PART III



## CHAPTER XXV

### RELATIONS WITH THE GOVERNMENT

**T**O understand the Mexican concession one must put out of mind assumptions based upon the English system of law. Mexican law is Spanish in origin, and Spanish legal institutions are an inheritance from ancient Rome. In the United States when the public authority grants a charter for the construction and operation of a railroad over private land to be condemned for the purpose, it neither acquires nor retains any proprietary interest in the easement. In Mexico a railroad concessionnaire receives what is in effect a lease, for a definite term of years, of the line which he proposes to build, largely or wholly out of private funds; and the public authority in the end automatically assumes proprietorship over all fixed properties and an option upon those of a moveable nature.

One analogy in the English law is the terminable leasehold system, which is common in London and not unknown in some of the older American cities; but the analogy is imperfect, for the ground rent comes within the scope of private law. Another is the franchise granted to the builders of certain public utilities in the United States, such as the subways in the City of New York.

A concession is not a corporate charter; nor is it a grant of funds or other public property. It is rather a contract providing for undertakings by both parties, and conferring certain benefits and imposing certain obligations. Its terms, within limits which may be prescribed by statute, are matters

## THE RAILROADS OF MEXICO

for negotiation and agreement; and they are subject to modification only as agreed upon by the contracting parties or their successors.

The motive underlying the granting of a concession is to promote economic development by encouraging the introduction of new industries, by fostering colonizing and agricultural enterprises, by facilitating the opening of new ways of communication and transportation, and by authorizing the exploitation of natural resources in a manner conducive to the public welfare.

An enterprise that is not concerned with the public service may, and many do, operate without a concession; but a railroad as a public utility cannot be built or operated without one. Railroad concessions have been granted in Mexico by state as well as national authority, but as only a single line—the Hidalgo—has developed beyond local importance under a state concession, such concessions need not be considered here.

The benefits derived, or at least anticipated, from a concession, are mutual, and the obligations are reciprocal. This becomes apparent upon examination of the documents themselves. These concessions have varied in their general terms, but as the system has developed the tendency has been toward uniformity; and this tendency has been accelerated through general legislation. As to their detailed terms, of course, there has always been great variety.

A Mexican railroad concession confers upon the recipient or his assigns authority to condemn private property and to locate, build, and operate a railroad and telegraph line over a certain route, and to fix rates for various classes of service within the prescribed limits. It exempts from customs duties, materials brought into the country for purposes of construc-

## RELATIONS WITH THE GOVERNMENT

tion and equipment within a period of five to twenty-five years; and it exempts the property and capital of the concessionnaire from all direct taxes for a period generally of fifteen years. It may, and almost invariably does, provide for a subsidy.

On the other hand, the concession reserves to the nation certain rights and imposes certain limits and obligations upon the concessionnaire. Among the rights commonly reserved are: to the transportation at reduced rates—usually one-half—of government employees on official business, of colonists and immigrants, of military forces with their supplies, munitions, ordinance, and equipment, and of articles to be used in the public service; to free transportation of the mails and of postal employees; to run government telegraph, and sometimes telephone, wires upon the fixtures erected by the concessionnaires; to assume direct operation of the line and to take over the personnel when in the opinion of the national authorities the public safety requires, subject to proper indemnification; and to suspend service or to render the property unserviceable in the event of war or other extraordinary circumstance, subject to indemnification or replacement. Most important of all is the right to assume full title to all fixed properties at the expiration of the concession, the term of which is forty to ninety-nine years.

Corporations may be organized in foreign countries to operate railroads, but they must be considered as wholly Mexican and subject to Mexican law alone; and no foreign government may acquire an interest in any concession or in any mortgage, share, or property subject thereto. Many of the older concessions provided that the national government should have representation upon the boards of directors of concessionnaire corporations, and some of them restricted



## THE RAILROADS OF MEXICO

the ownership of property within a certain distance from the national boundaries. Others required the construction of non-railroad properties for government use.

As summarized above, it would appear that the terms of these concessions greatly favored the nation,—particularly in view of the fact that Latin peoples are disposed to insist upon a strict interpretation and rigid enforcement of written agreements. The necessary equilibrium was maintained, however, through the grants of subsidies, without which, Mexicans themselves agree, few railroads of importance would have been built.

Subsidies have been granted to practically all Mexican railroads, the Mexican International, the Mexican Northern, and the Southern Pacific being the only important exceptions. They have been paid in cash, in securities, and in customs certificates; and they have been generally figured on a mileage basis, with reference to difficulty of construction or national importance, although the Mexican railway received a fixed sum per annum. The proportion of the subsidy to the total cost has varied from one-third to two-thirds, the former being more nearly representative. In the case of the unsubsidized railroads, the terms of the concessions were made more liberal so that an equitable balance of benefit might be maintained.

Altogether, Mexico has paid out over 100,000,000 pesos in the form of railroad subsidies, not counting the 45,000,000 pesos granted in aid of the Tehuantepec, which is now national property. The history of these subsidies has yet to be written as a part of the financial history of Mexico itself. It will not be attempted here. For the purpose of this discussion it is enough to say that subsidies were promised in excess of the financial capacity of the national treasury, that

## RELATIONS WITH THE GOVERNMENT

payments have been too generally delayed and sometimes suspended, and that some of the larger grants have been compromised as a matter of necessity. On the whole, however, the record of Mexico in the matter of meeting subsidy claims is a creditable one, considering the extent of its other obligations and the pioneer nature of the work which it undertook to aid.

~~Government control of railroads has been the policy in Mexico from the beginning.~~ The period from 1837 to 1880 was one of special legislation, the respective rights of the nation (or state) and the concessionnaires being set forth in detail in the concessions. During this period concessions were granted, but only a single important line—the Mexican railway—was brought to completion.

In 1880 the period of general legislation was inaugurated. On June 1 of that year an act was passed "Authorizing the president to amend contracts made for the construction of interoceanic and international railroads." In this act an attempt was made to establish a consistent principle which should govern all future concessions to be granted by the national government for the construction and operation of railroads. This was the principle of standardization, set forth in terms of maximum conditions. The most important provisions of this act were: that the term of a concession should not exceed 99 years, and upon the expiration of that concession the title to all fixed property should pass to the nation; that the conditions of existing concessions should be observed until modified by mutual consent, provided no modifications should be made except such as would redound to the benefit of the nation; that sufficient guarantees as to the reliability of persons seeking concessions should be required; that certain maximum rates for freight and passenger traffic should be

## THE RAILROADS OF MEXICO

fixed; that rates should be subject to revision at intervals of five years, and that rebates should be forbidden; that mails should be carried free of charge; that all concessionnaire companies should be deemed Mexican as to nationality; that the method of payment of subsidies should be left to the executive; that the states should retain all rights hitherto acquired through any railroad concessions which they may have granted; that concessionnaire companies should take advantage of lines already built wherever possible; and that in case of forfeiture of a concession, the title to the fixed property should pass to the nation free of encumbrance and at a valuation to be determined by appraisers named by the parties in interest.<sup>1</sup>

Next came the act of December 16, 1881, which for the first time defined the term "general means of communication", as used in the constitution of 1857, as applying to "all railroads, telegraph and telephone lines in the Federal district and the Territory of Lower California; those connecting two or more states; and those touching any port situated on the boundaries of the Republic." These, it was declared, should be subject exclusively to the national government in all matters relating to taxation; enforcement of terms of concession and national laws; forfeiture; expropriation; rates; general service regulations; construction and repairs; safety; accidents; national contraband; interference with mail service; and liens.<sup>2</sup>

Railroad affairs were at first under the jurisdiction of the Department of *Fomento*, and as early as 1877 the office of Inspector of Railroads was created in this department. To this department was entrusted the duty of formulating the

<sup>1</sup> Dublan, "Legislacion Mexicana," XIV, 273; Fomento, "Legislacion," III, no. 495; IV, nos. 741, 765; Robinson, *The railroads of Mexico*, "Railroad Gazette," XLIII, 233 (1907).

<sup>2</sup> Nufiez, "Instituciones de credito," 197-200.

## RELATIONS WITH THE GOVERNMENT

rules and regulations to govern the operation and service of railroads and the matter of inspection. With the development of the country and of the system of national transportation, a new Department of Communications and Public Works was created on May 13, 1891, and to it was assigned jurisdiction in the matter of mails, telegraphs, telephones, railroads, water transportation, ports, highways, and other subjects with which this study is not concerned.

Through this department the government almost at once began to exercise a more conservative and restrictive policy in the matter of granting railroad concessions. This was largely due to the growing power of José Y. Limantour, who in 1892-93, became secretary of the Department of Finance, and as such became the dominant member of the Diaz government and the initiator of its policies. The new attitude was not stated in express terms, however, until September 8, 1898, when Limantour presented to the President a special report on the relations of the government to the railroads. "Interesting from every standpoint was this document", says Macedo, "which marks the precise moment in our railroad history in which we paused to consider the ground covered, the methods which we had employed, and above all what was left to be done and how to do it within the scope of a well defined national plan."<sup>3</sup>

In his report Limantour pointed out the necessity of modifying the government's practice in the matter of concessions and subsidies to the end that the financial strength of the nation might be conserved and that lines to be authorized should be only such as would round out the transportation routes of the country into a great system designed to serve the country as a whole rather than to promote purely local or special interests.

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<sup>3</sup> Macedo, "La evolucion mercantil," 207 (1905).

## THE RAILROADS OF MEXICO

He then proceeded to specify those routes over which construction should be encouraged and to emphasize the need for the explicit definition of the respective rights of the government and the concessionnaire.<sup>4</sup>

To make this plan effective Congress on December 17, 1898, authorized the president to issue a decree subject to conditions which it specified to the extent of 37 articles. The result was a voluminous act of 187 articles divided into fourteen chapters containing detailed provisions governing: Classification of railroads; concessions; forfeiture of concessions; nationality and legal status; franchises and exemptions; reconnoissance and construction; operation; rights reserved to the nation; government inspection; concessions prior to the law; port works; penal responsibility; jurisdiction over railroads; and general enactments. This was issued by decree under date of April 29, 1899.<sup>5</sup>

Among the notable provisions of this law are: the specification of "routes of prime importance" over which no railroad lines had yet been built (Art.6); the limitation on the construction of parallel lines (Art. 29); the limitation of subsidies to lines built along routes of prime importance (Art. 77); and the granting of the privilege of "pooling" traffic and earnings (Art. 114).<sup>6</sup>

The execution of the railroad law was entrusted to the

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<sup>4</sup> Secretaria de Hacienda, "Memoria," 1898-9:401-15; Macedo, 208-23; Diaz Dufoo, "Limantour," 129 (1910).

<sup>5</sup> "Diario Oficial," no. 12, May 13, 1899; Secretaria de Comunicaciones, "Ley sobre ferrocarriles," Mexico, 1905, 61 p. Nufiez, 255-337; Dublin, XXXI, 89-122; Verdugo, "Coleccion legislativa," XXXI, pt. 1:709-57; English text: Mexican year book, 1908:653-85, and 1909-10:331-64; French text: "Annales des Ponts et Chaussées," 2e Partie: "Lois decretés," etc., Paris, 1901, (8e serie) I, 550-69, 644-72.

<sup>6</sup> See Gonzalez Roa, "El problema ferrocarrilero," 35-40 (1915); Robinson, Railroad regulation by law in Mexico, "Engineering News," LVI, 242-3 (1906), also The railroads of Mexico, "Railroad Gazette," XLIII, 233 (1907).

## RELATIONS WITH THE GOVERNMENT

Department of Communications and Public Works. To advise it in the matter of railroad rates a revisory Tariff Commission was created on January 1, 1900. This commission consisted of a president and four other regular members, nominated by the department, all with private occupations, two representatives of the railroads, one representative of the associated chambers of commerce, and one representative of the agricultural societies. Daily meetings were held in the City of Mexico, and questions referred by the Department of Communications were considered and acted upon, only the regular members being allowed to vote. The plan appears to have worked smoothly under stable conditions of government, and the recommendations of the commission were almost invariably followed by the Department.<sup>7</sup>

In Mexico as in the United States it was found that the tendency toward railroad consolidation created new problems. Here the problem was complicated by the fear that foreign interests would become predominant in the country through the acquisition of control of the shares of its railroads. The lines to the north—the Mexican National and the Mexican Central—were in the control of rival American interests led by the house of Speyer and H. Clay Pierce, and each endeavored to spread out to strategic points and to absorb smaller lines. To Limantour's mind this situation could have but one result; the rivals would compose their differences and enter into agreements which might be prejudicial to the welfare of the country. Says his biographer:

"It was necessary to bear in mind, that though the railroad

<sup>7</sup> Barker, Mexican railroads and railroad traffic, "Railroad Gazette," XLI, 264 (1906); Martin, Mexico of the twentieth century, I, 267 (1907); Mexican year book, 1914:48; "Railway Age Gazette," XLVII, 8 (1909); "South American Journal," LXII, 596 (1907). See also Camara de Comercio y la Sociedad Agricola Mexicana, "Estudio sobre el estado economico de los ferrocarriles Mexicanas," 76 p. (1900); also "Economista Mexicana," XXX, 213 (1900), XXXIV, 368-9 (1902).

## THE RAILROADS OF MEXICO

rates might seem high to the public, they had not yet reached the maximum indicated by the concessions. Until then the fear of an increase had been prevented by the balance resulting from the diversity of interests. Would the same thing occur when there was only one interest? In such a case the Government and the public would be subject to a power exercised by an insurmountable authority over all the sources of public wealth.”<sup>8</sup>

The action taken was to buy securities that would give the government a voice, and ultimately a controlling voice, in the management. One of the rival lines—the Mexican National—desired an outlet to the Gulf. This could have been effected through acquiring control of the Interoceanic. Limantour in 1903 forestalled this by getting control of the Interoceanic through successful open bidding for a new issue of its securities. He then came to terms with the National interests in an agreement which gave to the National its desired control of the Interoceanic but gave to the government control of the National. At the same time the National received a territorial monopoly in the North which effectually prevented the Mexican Central from building a short line extension from its main line toward the northeast which would have intensified the competition for through traffic.<sup>9</sup>

In 1906 the Mexican Central was in financial need, and a change of control seemed imminent. Limantour entered into negotiations with the company and acquired a controlling interest in its shares. The next step was the organization of the National Railways of Mexico, a gigantic operating com-

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<sup>8</sup> Diaz Dufoo, 129.

<sup>9</sup> Mexican year book, 1908:348-51; Didapp, “Explotadores politicos de Mexico,” 450-92 (1904).

## RELATIONS WITH THE GOVERNMENT

pany in which the nation held a majority interest. The new company began operations in 1909.<sup>10</sup>

Although much has been written of the great merger, there is much about the deal that is still unknown to anyone except those who were immediately concerned. Bankers are not given to loquacity; Limantour, now in retirement in France, maintains his own counsel, and his former political and financial associates are scattered. Whatever the merits in the case, the National Railways had but two years of normal existence before the revolution broke out, and any conclusions based upon the experience of the system would be of little value. Viewed solely in its larger aspects the merger has been highly commended by Mr. William M. Acworth, the British railroad authority who says:

"I believe the relation between the State and the national railways is one of the most difficult and important questions of modern politics, and that the one valuable and original contribution to that question which has been made in the present generation is due to the President of the Mexican Republic and his Finance Minister, Senor Limantour. . . .

"Whereas under the old system the final appeal was to a body of shareholders with no interests beyond their own divi-

<sup>10</sup> Secretaria de Hacienda, "Informe sobre . . . la consolidacion de los Ferrocarriles Nacional de Mexico y Central Mexicano," Mexico, 1908, 152 p.; same in "Memoria," 1907-8:490-528. English text of the report: "The railway merger," translated by L. O. Simonds, Mexico, 1908, 39 p.; of the first three appendices: Mexican year book, 1908:693-706. The remaining seven appendices contain the text of the agreement with the banking houses and a variety of statistical material.

The best account of the merger in English appears in the Mexican year book, 1908:689-714. See also Bell, *The political shame of Mexico*, 3-5, 8-18 (1914); Starr, *Mexico and the United States*, 222-3, 229, 249-51 (1914); Diaz Dufao, "Limantour," 129-37 (1910); Osterheld, *History of the nationalization of the railroads of Mexico*, "Journal of the American Bankers' Association," VIII, 997-1003 (1916); Speare, *The finances of Mexico*, "American Review of Reviews," XXXIX, 722, 725-6 (1909); U. S. Department of War, *Monograph on Mexico*, 158-63 (1914); "Economist," LXV, 12, 453-4 (1907), LXXI, 1125-6 (1910); "Railroad Gazette," XLIII, 56-7 (1909); "South American Journal," LXII, 88, LXIII, 448, 534 (1907), LXIV, 434, 502 (1908), LXVI, 21 (1909); "Statist," LXI, 715-6 (1908), LXIII, 1121-2 (1909).



## THE RAILROADS OF MEXICO

dend, the majority shareholder is now the Government of Mexico, with every inducement to regard the interests, both present and prospective, of the country as a whole. . . .

"Faced with a powerful but local and temporary demand, the Government may be able to reply that this is a matter to be dealt with on commercial lines by the board of directors. If, on the other hand, permanent national interests are involved, the Government can exercise its reserve power as a shareholder, can vote the directors out of office, and so prevent the continuance of a policy which would in its judgment be prejudicial to those interests, however much it might be to the advantage of the railway as a mere commercial concern."<sup>11</sup>

The government has not failed to "exercise its reserve power" to change the personnel of the board of directors. One of the aims of President Madero was to rid the National Railways of directors representing interests friendly to the Diaz régime, and this was accomplished.<sup>12</sup> His successors have acted likewise, and the personnel has shifted materially during recent years.<sup>13</sup>

That representative Mexicans are themselves dissatisfied with the present working of the railroad law is evident from the transactions of the First National Congress of Merchants, held in July, 1917. The following excerpts indicate the nature of the reforms proposed:

"The railroad service at present does not answer the needs of the public. The law on railroads, Article 153 whereof provides for the office of representative inspectors and lays down

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<sup>11</sup> Acworth, *The relation of railways to the state*, British Assoc. for the Advancement of Science, "Report," 1908: LXXVIII, 777-8.

<sup>12</sup> U. S. Senate Committee on Foreign Relations, *Hearings before a subcommittee . . . to investigate whether any interests in the United States have been or are now engaged in inciting rebellion in Cuba and Mexico*, 745-85 (1913).

<sup>13</sup> "Chronicle," XCIX, 816 (1914).

## RELATIONS WITH THE GOVERNMENT

the duties thereof, should again be enforced with all due severity. The Department of Industry and Commerce always possesses the best statistical data and it is in a position to know at any time whether a given section of the country is becoming enfeebled or prosperous in consequence of the railroad tariffs. Thus it behooves this Department closely to watch the conduct of railroad affairs, and great advantage would be derived from the Department's assuming of functions prescribed under the above mentioned article. If the employees know that the Government is watching their every act, irregularities will cease or at least diminish very considerably. Moreover, all the duties imposed on the representative inspectors would be discharged to great advantage by this Department because, for special reasons, it would be in a much better position than anybody else to investigate as to the damages thereby occasioned. In England, France and the United States the railroads are subject to offices similar to our Department of Industry and Commerce. For this reason it would be advisable to establish in this Department a railroad section under an Executive Board, a committee for the revision of tariffs, contracts, agreements, etc.; a section for inspectors; another for statistics; and another for advisory, for claims and complaints.

"The Executive Board of the railroad section should be made up of seven persons, three of whom should represent the Department of Industry and Commerce, two the railroads, and two to be appointed by the assembly of Chambers of industry and commerce. . . .

"In Mexico the railroads have not coöperated in the advancement of our commerce; they have established their tariffs under the protection of benevolent administrations to the benefit of North American commercial firms. The Tariff Com-

## THE RAILROADS OF MEXICO

mission in the Department of Communications and Public Works does not fulfill its purpose; it ought to work systematically and independently and it should constantly be given complete statistical information which only the Department of Industry and Commerce is in a position to furnish. It is only through intimate contact with the varying needs of our commerce that matters relating to tariffs can be governed to the real benefit of our national interests. The Commission, moreover, should not be solely an advisory body, but it should be vested with certain executive powers. Such a commission (composed, if it be so desired, of five members. . . . to represent commerce, industry, agriculture and other sources of public wealth) should also be able to count upon a competent body of inspectors and supervisors. The railroad service would greatly improve, and what in normal times is only one of so many necessities, under prevailing conditions constitutes a most pressing one

“Politics in Mexico, as in all countries, have always done great injury to the railroad service. With us the Government is the principal shareholder, but the Boards of Directors operate independently. Unfortunately foreigners are not excluded from the personnel of the railroads, which need a very thorough cleaning out. Our railroad legislation is wise and clearly defines the intervention of the State. To begin with it is absolutely necessary to inspect the acts of the railroad Executive Board, which is at present not responsible for its acts and renders no accounts to the Government, and as a matter of fact is altogether independent. Its present management may cause our public debt to increase very considerably. Nor is this Executive Board of the National Lines even subject to the limitations which are imposed upon private companies. It is therefore necessary that the Department of

## RELATIONS WITH THE GOVERNMENT

Communications should keep a strict watch on its work; that the Finance Department should inspect all its acts as is done in all other offices that handle public funds; and finally that the Department of Industry and Commerce should prevent arbitrary alterations in the tariffs and remedy the very grave deficiencies to be found in the matter of freight. . . .

“In order to promote commerce and to facilitate the transportation of merchandise, it would be well to establish a ‘Technical Freight Office’ to serve as an intermediary between merchants and the railroad companies; to furnish all kinds of information, statistical data, etc., to the public, all of which would tend to simplify and to expedite the purchase and sale of merchandise; to endeavor to obtain from the high railroad officers a consistent equitable attitude, especially in the matter of contracts for cars; to organize an ‘Association of Railroad Train and Car Owners’; and finally to concern itself particularly with the matter of car shortage which is now so seriously interfering with commercial transactions.

“The authors of this project undertake to organize such an office, and they believe that the reorganization of the Revisory Tariff Commission under the jurisdiction of the Department of Industry and Commerce is a matter that is most urgently needed.

“This Tariff Commission could at once consider the uniform bills of lading; the revision of the stipulations of such bills; the elimination of the note, now to be found on all receipts issued, which nullifies the rights of the merchants against the company; the reorganization of the express departments so as to reform the methods followed in those offices and to prescribe more equitable regulations with reference to freight, tariffs, the classification of goods, etc.; and the elimination of certain

## THE RAILROADS OF MEXICO

unjust stipulations to be found at the foot of bills of expenses, etc.”<sup>14</sup>

Only one of these proposals was formally endorsed by the Congress, the text of the resolution being as follows:

“*Resolved*: that the First National Congress of Merchants ask the Supreme Government of the Republic to be pleased to consider the following project when the law on railroads is amended:

“A branch railroad department shall be established within the Department of Industry and Commerce, having the following dependencies:

“A.—An Executive Board composed of seven members: three to be appointed by the Department itself; two representing the railroads, to be appointed by the latter; and two to be appointed by this Assembly, to represent industry and commerce.

“B.—A revisory committee on tariffs, contracts, agreements, etc.

“C.—A section for inspectors.

“D.—A section for statistics.

“E.—An advisory section for claims and complaints.

“The foregoing to be established without detriment to the Department of Industry and Commerce giving the whole a better organization, should it deem it advisable.”<sup>15</sup>

Further evidence as to the existence of a general belief that some remedial measures are desirable is furnished by the fact that the secretary of the Department of Communications and

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<sup>14</sup> First National Congress of Merchants, Summary of transactions and proceedings, 1917:98-9, 102-3, 104.

<sup>15</sup> *Ibid.*, 139-40.

## RELATIONS WITH THE GOVERNMENT

Public Works in 1917 appointed a commission to consider the revision of existing railroad laws and regulations.<sup>16</sup>

A railroad policy, therefore, is still in process of development in Mexico; but compared with the United States, Mexico has the better record in this particular, partly because it has been able to profit from our experience.

There is no evidence that President Jaurez had any railroad policy. He lived in a time of internal strife and of foreign invasion, and his attention was necessarily devoted to such matters. As to the attitude of his successor, Lerdo de Tejada, there is disputed testimony. His detractors have attributed to him the words "Between strength and weakness let us maintain the desert"; and this had been accepted as the epitome of his attitude toward railroad communication with the United States. But Pablo Macedo, a Diaz proponent, who quotes this slogan, admits that there is doubt as to its authenticity.<sup>17</sup>

If there is such a thing as the "Diaz myth", of which revolutionary writers tell us, it is the fanciful belief that from the first, Diaz pursued a consistent railroad policy. Nothing could be further from the truth. Diaz' railroad policy changed from time to time, but it always indicated the facts as he understood them. It developed as he himself developed as a man and as a statesman. It changed when a new array of facts was presented to him,—and it brought railroads to Mexico.

Lerdo's most vehement critic was Vicente Riva Palacio, who has some standing as a historian. Riva Palacio wrote a whole book on the administration of Lerdo; but since this book was written on the eve of the Diaz revolution by a man who

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<sup>16</sup> "Mexican Review," Sept. 1917:16.

<sup>17</sup> Macedo, 199-200.

## THE RAILROADS OF MEXICO

was soon to sit in Diaz' cabinet, it must be considered as a revolutionary tract, valuable less for what it says than for what it indicates.

Reference is made in this book to an address of Lerdo's on December 16, 1873, in which he speaks of "the great benefits to be derived from placing the Republic in close touch with the United States." The sincerity of this statement is not challenged, but for an earlier reference to the action on the Plumb contract of May 29, 1873, the President is roughly handled:

"The President likewise in his speech of May 31, spoke of a railroad project already submitted to Congress, and action on this project, as we have already seen, consisted solely in rejecting openly the plan of the Union Contract Company, which offered all kinds of guarantees in order to accept apparently that of the Texas railroad company, and have Congress afterwards reject it; thus demonstrating that it is a common thing in Mr. Lerdo to belie with his acts his most flattering promises. '"<sup>18</sup>

Such charges are hard to prove. If this one be accepted on circumstantial grounds what is to be said of the rejection of the Palmer-Sullivan contract of November 12, 1877? Did this action similarly reflect the attitude of the president—who was then none other than Porfirio Diaz?

As to the other charge, reiterated at intervals throughout the book, to the effect that Lerdo was personally interested in the various enterprises projected by the Mexican railway interests,<sup>19</sup> this may or may not be true. What is certain is the fact that the English interests in control of the Mexican

<sup>18</sup> Riva Palacio, "Historia de la administracion de Don Sebastian Lerdo de Tejada," 295, 316 (1875).

<sup>19</sup> Ibid., 102-12, 159, 168, 316-36, 442-50, 461-4, 480-1.

## RELATIONS WITH THE GOVERNMENT

railway got into very close touch with the Lerdo administration, so close that upon its downfall they lost heavily, and, in the absence of a British minister, appealed to John W. Foster for protection. In fact, one of the causes of the Diaz revolution was this very alliance.

Fernando Gonzales Roa, the most recent writer on Mexican railroads, tells us of the first Diaz railroad policy, which, it appears, was rather the policy of Riva Palacio.

"The Secretary of Fomento, Don Vicente Riva Palacio, was the first director of the railroad policy. It was his plan to grant concessions to the governments of the several states, extensive and liberal in terms, with the idea of promoting the construction and development of a single great system. It is to be supposed that General Riva Palacio advocated this policy in order to enlist the influence of capitalists and local politicians, and to avoid distrust of our northern neighbors, in the belief that the concessions would be financed by Mexican capital. . . . This policy of Minister Riva Palacio, designed as it was to solve the problem of railroad communication through the creation of small lines, naturally suffered from lack of coherence. The small companies had to disappear, and thus it was that out of 222 concessions granted up to December 31, 1899, 135 were abandoned or declared forfeited, and among these there remained only about a dozen important enterprises."<sup>20</sup>

Thus the policy of Riva Palacio cannot be said to have been conducive to railroad building on a large scale. In fact, it prevented the giving of proper consideration to worthy projects which were being advocated by men who later demonstrated their ability to carry them out. It was abandoned, as we have seen, in the last year of Diaz' first term.

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<sup>20</sup> Gonzales Roa, 18-9. See also Macedo, 201-2.



## THE RAILROADS OF MEXICO

Manuel Gonzales, who served as President from 1880 to 1884, had for his secretary of Fomento, Carlos Pacheco, who, according to Gonzale Roa, "Promoted the construction of railroads with feverish enthusiasm. The aim of his railroad policy was to solve the railroad problem for the nation and not for the states, inviting the foreigners to invest capital in Mexican lines, and aiding them by subsidies."<sup>21</sup>

This was the policy of the second Diaz administration, and it was modified only when Diaz, in the nineties under the influence of Limantour, decided that the time had come for intensive rather than extensive development,—a policy embodied in the railroad law of 1899.

That there were abuses under the early Diaz régime, as there had been during the administration of Lerdo, we know from the reports of men in Mexico at the time. Says one:

"The matter of granting railroad charters is by no means new. They have been granted for thirty years or so, to Europeans and natives, who did little or nothing with them. It was only when under the adoption of a more enlightened policy, they came to be granted to Americans, that the roads were built and the charters had a value. At once everybody who prided himself upon the necessary influence began to desire a charter also. He might not want to use it at once, but he could keep it and see what turn things were to take. Or he might transfer it to some powerful ownership to which it would be worth a consideration. This new ownership, too, might wait to see what was likely to happen. If railways promised to be profitable in the country, it was well for certain great corporations in the United States to have their feeders for extensions there; at any rate, they could keep others from the field till they should be satisfied of its character.

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<sup>21</sup> Gonzales, Roa, 19. See also Romero, *Mexico and the United States*, 117-9 (1898).

## RELATIONS WITH THE GOVERNMENT

"It is in this way, I surmise, that some of the present franchises have been got, and are reflectively held. There have been henchmen to procure them and then turn them over to patrons, who wait a while before going to work, trusting to influence to procure the proper extensions of time if needed.

"Stories were afloat of practices employed in the obtaining of concessions and subsidies, which I should prefer to believe falsifications. I heard one or two of these, it is true, from somewhat inside sources, and such practices are not unknown elsewhere."<sup>22</sup>

As has been shown in a previous chapter, John W. Foster, who was witness to the events of this early period and familiar with the persons involved, was far from hopeful as to the outlook. This he showed not only in his epoch making "Trade with Mexico" letter, but in such of his despatches to Washington as were printed in the "Foreign Relations."

Many years later he wrote in a different spirit:

"In spite of all our prognostications as to commercial matters, based upon the past and then existing conditions, President Diaz was able, through his successful administration of affairs to accomplish that which at that time seemed hopeless. He gave the country a long era of peace and order. He forced Congress to grant liberal concessions for railroads connecting with the United States. He established protection and security to life and property. He restored public confidence. He brought about a great development of the resources of the country. Under his régime, commerce, internal and foreign, flourished beyond the dreams of the most hopeful."<sup>23</sup>

Whatever may have been the shortcomings of Diaz as an

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<sup>22</sup> Bishop, *Old Mexico*, 70-1 (1888).

<sup>23</sup> Foster, *Diplomatic memoirs*, I, 116.

## THE RAILROADS OF MEXICO

administrator, through the development of a one-man power under the guise of a democracy, there can be little doubt that he will be remembered for his part in creation of Mexico's railroad system.

## CHAPTER XXVI

### RESULTS, POLITICAL AND ECONOMIC

A GREAT deal of nonsense has been written about the effect of railroads upon the development of Mexico, particularly by those who were unable to see anything but good in the Diaz régime. Thus we were told that "The introduction of railways into Mexico has roused the people from their centuries of lethargy;"<sup>1</sup> and that "In Mexico the railroad has wrought a marvelous transformation in the social and material aspect of the republic."<sup>2</sup> And Pablo Macedo declared:

"At the strident whistle of the locomotive crossing many parts of its territory, the nation has awakened from its long sleep. Wealth formerly beyond the reach of human hands has been made possible of exploitation. Veritable deserts have been made fertile through labor, and, in a word, the activity and warmth characteristic of healthy organisms have been diffused throughout the country. Not in vain do we children of this soil say that with the railroads were we born into the life of civilized nations."<sup>3</sup>

Such statements ignore the fact that a nation is as civilized as its people, and that in modern times a country can develop stable institutions only as it is able to raise the standards of the people. The population of Mexico is made up largely of Indians and of persons of mixed blood, and within recent

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<sup>1</sup> Howell, Mexico, 75 (1892).

<sup>2</sup> Bancroft, Resources and development of Mexico, 95 (1893).

<sup>3</sup> Macedo, "La Evolucion mercantil," 223 (1902).

## THE RAILROADS OF MEXICO

years immigration has been negligible. As a result standards of living are low, productive methods and equipment generally are primitive, and individual wants are few. The percentage of illiteracy is extremely high, and the facilities for instruction inadequate. To raise the level of the people will require much time, whether this be done through the provision of better educational and economic opportunities or through the encouragement of immigrants of a more advanced type. Failure to give proper attention to the needs of the common people was one of the chief causes of the downfall of Diaz.

Mexico, before the coming of the railroad, was a country of large individual land holdings and of most uneven distribution of wealth; and such it is to-day. The owners of land generally have not been disposed to sell, nor have they actively concerned themselves with the introduction of more intensive methods. If they have raised wages or improved working conditions it has usually been to meet the better terms offered by foreign interests, brought in because of the railroads.

Nevertheless, one of the greatest changes wrought by the railroad has been in agricultural development. It has put new lands under cultivation and has broken down the barriers between producer and consumer. It has reduced the frequency and intensity of famines, and it has tended to reduce prices of necessities to a more common level. By providing markets, it has stimulated the introduction of better equipment and machinery for harvesting; but it has done little, nor could it have done much, to overcome the reluctance of the laborer to adopt new facilities for working the soil and planting.

Commerce, both domestic and foreign, has been increased

## RESULTS, POLITICAL AND ECONOMIC

by the advent of the railroad, but there was comparatively little at the outset, so an increase was to have been expected. Communities, shut in by mountain barriers and connected only by primitive roads, have been relieved from isolation, and trading relations have followed as a matter of course. Much was expected of the railroads connecting Mexico with the United States, but it is significant that while the United States is Mexico's best customer, the bulk of Mexico's foreign trade passes through its ports.

The railroads, in their attempts to encourage the development of commercial activity, have been hampered by an antiquated fiscal system, inherited from Spain, which tends to discourage production, erects artificial barriers between different sections, and makes difficult the maintenance of ordinary highways. They have contributed to the promotion of industry, but often in lines which the country was not prepared to enter on terms which would benefit the consumer. This is not the fault of the railroads, but of the nation whose high protectionism has only served to increase inequalities in the distribution of wealth.

As has been shown in preceding chapters, there were two theories underlying railroad promotion in Mexico. The most commonly accepted was that of the direct line to a port or to the Northern border. It was this motive that was behind the Mexican National project. On the other hand, the Mexican Central was designed to develop the country through which it ran, extending branches to sources of production and absorbing feeders as they could be obtained. Both projects must be counted as failures, measured by American standards; but the Mexican Central failed not because its theory was wrong, but because it was too heavily capitalized to await the slow progress of internal development. The mistake made was in assuming that what could be done in the

## THE RAILROADS OF MEXICO

southwestern part of the United States could be done with equal speed south of the Rio Grande, where conditions were more essentially different than they appeared to the men of Boston whose monument is the Atchison.

If anything were needed to condemn the shortsightedness of those who advocated the short-line theory it is the large number of lines which have been built by mining interests. Such lines in other countries are built not by the industrial interests to be served, but by the railroads, and often on their initiative.

Another unfortunate mistake, which has tended to retard internal development, was the maintenance of high freight rates based upon the "what-the-traffic-will-bear" theory. The Mexican railway has been the most conspicuous offender in this respect; but no one has been free from the practice. This has tended to place emphasis upon mining products and other forms of traffic which could stand the high rates and yet yield a profit; but it ignored the less important business, capable of great development, which was based upon the normal activity of the communities served by the railroads. There is something wrong about a practice which allows a railroad to be underbid on low grade traffic along its own route and by an Indian and his donkey; and yet we are told that "Even such cheap and heavy goods as coarse terra-cotta jars are still carried by men from the valley of Toluca to the City of Mexico, along the highway which, for some part of the distance, runs parallel with the Mexican National Railway."<sup>4</sup> This sentence was written a quarter of a century ago, but the condition which it reflects is much less remote.

Much has been made of the argument that the railroad is a pacifying agent, and that with its introduction throughout

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<sup>4</sup> Moses, *The railway revolution in Mexico*, 78 (1895).

## RESULTS, POLITICAL AND ECONOMIC

Mexico the country would be ensured a stable government and a high standard of public order. In a book which appeared as recently as 1914 we find the statement, so frequently seen in earlier works on Mexico, namely :

“Railway extensions have greatly diminished the chances of successful revolution. In the old days it took so long to travel from the capital to any of the big provincial centres that revolution might be brought to a successful issue before any considerable body of government troops could arrive. All this is changed now, as with the aid of railways, telegraphs, and telephones, troops can be concentrated at any place by special train at a few hours’ notice. With such a strong government as Mexico at present possesses, there is consequently little chance of a revolution succeeding, even temporarily.”<sup>5</sup> This was written, of course, before the fall of Diaz, and allowed to reappear in a revised edition which would be the cause of mirth to one Francisco Villa, if it should ever be brought to his attention. As an inducement to foreign investment, this sort of statement was effective. As an argument it was a good one; until it became apparent that employment given by the railroads and by the other foreign enterprises which have been established had helped to create that long-sought-for middle class to which may be attributed the credit for overthrowing Diaz and his successors in a blind attempt to attain social justice.

It is not the purpose of the foregoing pages to deny that from the standpoint of national wealth and welfare the result of the introduction of railroads into Mexico has been beneficial to the country and to its people. The foundation work has been done, and with the development of some additional extensions and many branches, Mexico’s railroad sys-

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<sup>5</sup> Carson, Mexico, 147.



## THE RAILROADS OF MEXICO

tem can do its part in the reconstruction period that now seems to be approaching.\*

Those who are fond of appearing as sponsors for backward nations frequently resort to the charge that many of the evils complained of are the result of exploitation by foreign capitalists and their agents. By very few writers, however, has this charge been made against the owners of Mexican railroads. Money has been made in Mexico, as elsewhere, by successful promoters whose profits came from construction-company contracts; but much money has also been sunk in unsuccessful projects, and Mexico's greatest railroad, the Mexican Central, was constructed without the intervention of a construction company. Investors in railroad bonds had no grounds for complaint until after the Diaz régime. Shareholders are on a speculative basis, their hope being that Mexico will sometime become stabilized and that they may then share in the prosperity toward which they have already contributed. Their hope, however, is of the sort that is long deferred; for the Madero revolution came just at the time when it appeared that greater returns might soon be expected. From the investment standpoint, therefore, Mexican railroads have been a disappointment; while to the "speculative investor" they offer an inducement which, in view of the present general demand for capital, is as strong as the belief in Mexico's ability to reëstablish herself among the respected nations of the world.

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\* See Moses, *The railway revolution in Mexico*, 90 p. (1895); also Gonzales Roa, "El problema ferrocarrilero," 41-88 (1915).

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# INDEX



## INDEX

### A

- Acapulco, Morelos, Irolo, and Vera Cruz Inter-oceanic railway, 141.  
 Acworth, W. M., on railroad nationalization, 177-178.  
 American Metals company, lease of Mexican Northern, 36, 163-164; corporate railroad equipment, 47.  
 American-Mexican company, project 104.  
 Atchison, Topeka, and Santa Fe interests, relation to Sonora railway, 123-125, to Mexican Central, 127, 130, to Sinaloa and Durango, 131 n; leased Sonora railway to Southern Pacific, 161.

### B

- Barnard, Gen. J. G., surveyor of Tehuantepec, 149.  
 Bigelow, John, on railroad projects and prospects, 117-119.  
 Blair, D. B., promoter, 108, 109.

### C

- Camacho, Sebastian, promoter, 107-108, 109, 123, 128.  
 Cananea, Rio Yaqui, and Pacific, concession, 161; construction, 161; acquired by Southern Pacific company, 161.  
 Carranza, Venustiano, railroad policy, 70-73.  
 Central railroad of Mexico, concession, 108, 109, 184. See also Mexican company, Ltd.  
 Chihuahua and Pacific railroad, concession, 157; construction, 157; acquired by Mexico North Western, 8, 158; trackage rights acquired by Kansas City, Mexico and Orient, 8, 158.  
 Claims, against the nation, 18, 20, 26; basis of adjustment, 78-79.  
 • Claims, against the railroads, 68-68.  
 Coahuila and Pacific railway, acquired by Mexican Central, 129-130.

- Coahuila and Zacatecas railway, control, 5-6, 86, 164; service, 58.  
 Concessions, description, 112-113, 116-120, 167-172; controlled by general law, 171-174; abuses, 186. See also Legislation.  
 Constitutionalist railways of Mexico, 28-34. See also National railways.  
 Constitutionalist railways of Yucatan, state operation, 35. See also United railways of Yucatan.  
 Corthell, E. L., railroad builder, 151.

### D

- Diaz, Porfirio, railroad policy, 1, 3, 7, 10, 109, 111, 127, 183-188.

### E

- Eads, J. B., ship-railway project, 152 n.  
 Equipment, damage and destruction, 19-21; military use, 26, 31-32, 58; repair and replacement, 18, 22-24; present condition and supply, 21-24, 43-45, 52, 54-55, 60; private ownership, 46-48.  
 Escandon, Antonio, promoter, 101-102.

### F

- Foster, J. W., on railroad projects and prospects, 107, 110-113, 116, 117; on Diaz' railroad policy, 187-188.

### G

- Garay, José de, first Tehuantepec concessionnaire, 149.  
 Gonzales, Manuel, railroad policy, 186.  
 Gonzales Roa, Fernando, on Limantour's railroad policy, 4n; on Diaz' policy, 185; advocacy of "Mexicanization" policy, 72-73.  
 Gorsuch, R. B., promoter, 101, 106.  
 Gould, Jay, failure as a Mexican railroad promoter, 145-146.  
 Grant, Gen. U. S., promoter of Mexican Southern, 145-146.  
 Griffin, Solomon, on railroad projects and prospects, 120.

# INDEX

## H

- Hampson, J. H., railroad builder, 151.  
See also Mexico, Cuernavaca, and Pacific.  
Hidalgo and Northeastern railroad, control, 5; state concession, 168; acquired by National railroad of Mexico, 135.  
Highways and travel conditions, 91-98.  
Huntington, C. P., rivalry with Atchison interests, 123-125, 128; builder of Mexican International.

## I

- Imperial Mexican railway, organized, 102-103. See also Mexican railway.  
Interoceanic railway of Mexico, control, 4-5; concessions, 139-142; construction, 140, 142; acquired San Marcos and Nautla (Mexican Eastern), 142-143; leased Mexican Southern, 143; acquired by nation, 135, 143; acquired by National railroad of Mexico, 143; acquired by National railways, 143; loss and damage, 16, 19; government operation 28-30; interrupted and suspended operation, 37-39, 59; finances, 65-66.  
Investments, foreign, 1-3.

## K

- Kansas City, Mexico, and Orient railway, control, 5-6; concessions, 158; acquired trackage rights over Chihuahua and Pacific, 8, 158; construction, 8, 158-159; loss and damage, 13-14; interrupted and suspended operation, 42; receivership, 35, 67.

## L

- Legislation, development, 171-174; general law 1899, 3-4, 7, 25-27, 69-71, 174, 186.  
Lerdo de Tejada, Sebastian, railroad policy, 183-184.  
Limantour, J. Y., railroad policy, 3-4, 173; report of 1898, 173-174; general railroad law, 3, 174, 186; nationalization scheme, 3-5, 175-178.  
Louisiana Tehuantepec company, 150.

## M

- McMurdo, Edward, Tehuantepec contract, 151.  
Mexican company, Ltd., concession, 107-108, 127. See also Central railroad of Mexico.

- Mexican railway, control, 5-6; concessions and construction, 9, 100-103; interested in Mexican company, Ltd., and Central railroad projects, 107-109, 184; loss and damage, 14, 18, 20; government operation, 27-35; present condition, 17; service, 58; finances, 67.

- Mexican Central railway, control, 4; concession, 127-128; construction, 128-129, 194; acquisition of residuary lines of Mexican National Construction company, 130; construction of Mexican Pacific railway, 7, 129, 130; acquired Monterey and Mexican Gulf, Mexico, Cuernavaca, and Pacific, and Coahuila and Pacific, 129-130; results, 130-131, 91-92; acquired by nation, 131, 175-177; merged in National railways of Mexico, 131, 175-177.

- Mexican Eastern railway, organization, 142; finances, 66.

- Mexican International railroad, control, 4-5; concession, 137-138; no subsidy, 137, 170; construction, 8, 137-138; acquired by Mexican National railway, 135, 138; full control acquired by National Railways, 138; liquidation, 138.

- Mexican Mineral railroad, control, 36.

- Mexican National Construction company, concession, 133; residuary lines, 134; acquired by Mexican Central, 130.

- Mexican National railroad, successor to railway, 134; reorganized as National railroad of Mexico, 135, which see.

- Mexican National railway, concession, 133; construction, 134, 191; leased Michoacan and Pacific, 135; acquired Mexican International, 135; reorganized as Mexican National railroad, 134, which see. See also National railroad of Mexico.

- Mexican Northern railway, control, 5-6; concession, 163; construction, 163; no subsidy, 170; leased by American Metals company, 36, 163-164; suspended operations, 42; finances, 68.

- Mexican Oriental, Interceanic, and International railroad, concession and receivership, 146.

- Mexican Pacific railway, nucleus, 134; construction, 7, 129, 130.

- Mexican Southern railroad, concessions, 145-146; failure of Gen. Grant's project, 146; concession passed to Mexican Southern railway, 146, which see.

# INDEX

- Mexican Southern railway, control, 4-5; construction, 11, 146; leased to Inter-oceanic, 143, 147; loss and damage, 16-17, 19; interrupted operation, 39; finances, 66.
- Mexico and Morelos railway, concession, 139.
- Mexico and United States railway, project, 104-105.
- Mexico, Cuernavaca, and Pacific railroad, project, 9; acquired by Mexican Central, 129.
- Mexico North Western railway, control, 5-6; concession, 158; construction, 8, 158; acquired Chihuahua and Pacific, Rio Grande, Sierra Madre, and Pacific, and Sierra Madre and Pacific, 158; acquired Sierra Madre Land and Lumber company, 35-36, 158; loss and damage, 14-18; interrupted and suspended operation, 39-40; seizure threat, 36, 71; service, 53; finances, 67.
- Michoacan and Pacific railway, control, 4-5; acquired by Mexican National railroad, 135; finances, 65.
- Mileage, 1, 5, 6, 11.
- Monterey and Mexican Gulf railroad, acquired by Mexican Central, 129.
- N**
- Nacozari railway, control, 5-6, 36; concession, 164; loss and damage, 16; service, 53-54.
- National railroad of Mexico, control, 4-5; successor to Mexican National railway, 135; acquired Inter-oceanic, 135, 143; acquired Hidalgo and Northeastern, 135; acquired by nation, 135; merged in National railways of Mexico, 135, 175-177. See also Mexican National railroad.
- National railways of Mexico, organization, 4, 175-177; acquired Mexican International, 138; acquired Pan-American and Vera Cruz and Isthmus, 154; abandonment of lines, 11-12; loss and damage, 15-22; repairs and replacements, 22-24; present condition, 17, 21-22; government operation, 27-34, 78; independent operation, 36-38, 177; service, 52, 67; finances, 63-66.
- National railway of Tehuantepec, government ownership, 34. See also Tehuantepec National railway.
- National Inter-oceanic railway, concession, 141.
- Nationalization, 3-5, 175-178.
- New York-Tehuantepec Steamship and Railroad company, 150.
- New York, Texas, and Mexico railroad, project, 9-10.
- Nickerson, Thomas, builder of Sonora and Mexican Central, 124, 127.
- O**
- Occidental railway, successor of Sinaloa and Durango, 8, 131n.
- Osterheld, T. W., reorganization scheme, 75-78.
- P**
- Palmer, Gen. W. J., promoter, 110; rivalry with Atchison interests, 123, 127-128, 133.
- Pan-American railroad, control, 4-5; concessions, 154; construction, 7, 154; acquired by National railways, 154; loss and damage, 19-20; government operation, 28-29, 34.
- Parral and Durango railroad, control, 5-6; concession, 164; independent operation, 164; finances, 68.
- Pearson, Dr. F. S., promoter, 158.
- Pearson, S. and Son, Ltd., Tehuantepec partnership, 5, 34, 152; ownership of Vera Cruz (Mexico) railway, 158.
- Pierce, H. C., control of Mexican Central, 131, 175.
- Plumb, E. L., promoter, 106, 108, 109.
- Potosi and Rio Verde railroad, concession, 164; ownership, 36, 164.
- Prendergast, F. E., on railroad projects and prospects, 116-117.
- R**
- Read, H. R., railroad builder, 146.
- Regulation, government, 172-175; suggested changes, 178-183.
- Rio Grande, Sierra Madre, and Pacific railroad, concession, 157; acquired by Green interests, 157; acquired by Mexico North Western, 8, 158.
- Riva Palacio, Vicente, railroad policy, 183-185.
- Romero, Matias, reply to Foster, 113; reply to Bigelow, 119; interest in Mexican Southern railroad project, 145.
- Rosecrans, Gen. W. S., promoter, 105-107.
- S**
- San Marcos and Nautla railway, acquired by Inter-oceanic, 142. See also Mexican Eastern.
- Sanchez, Delfin, promoter, 140, 151.
- Sierra Madre and Pacific railroad, concession, 157-158; acquired by Mexico North Western, 158.



# INDEX

Sinaloa and Durango railroad, project, 8; construction, 131n.  
 Sonora railway, concession, 123; construction, 123-125; leased by Southern Pacific company, 161; acquired by Southern Pacific company, 161; nucleus of Southern Pacific railroad of Mexico, 125, which see.  
 Southern Pacific company, rivalry with Atchison interests, 123-125; leased Sonora railway, 161; acquired Sonora, 161; sold Mexican International shares to National railways, 138.  
 Southern Pacific railroad of Mexico, control, 5; outgrowth of Sonora railway, 125; concessions, 4, 161-162; construction, 9, 161-162; no subsidy, 170; loss and damage, 15-16, 18, 20, 40-41; state operation, 35; interrupted and suspended operation, 35, 40-42, 60; seizure threat, 36, 71; service, 52-54; claims, 26; finances, 66-67; present condition, 17.  
 Speyer and company, control of National railroad of Mexico, 175.  
 Stanhope, C. S., railroad builder, 151.  
 Stilwell, A. E., promoter, 158.  
 Subsidies, characteristic of concessions, 116-120, 170; amounts granted, 170; suspension, 119-120, 170-171; railroads built without aid, 137-138, 170.  
 Sullivan, James, promoter, 106-107, 127, 138.  
 Symon, R. R., promoter, 109, 127, 131n.

## T

Talcott, Capt. Andrew, surveyor of Mexican railway, 102.  
 Tehuantepec railroad company, 150-151.  
 Tehuantepec railroad company (of Louisiana), 149.  
 Tehuantepec railway company, 150.  
 Tehuantepec National railway, control, 5, 34; concessions, 149-151; con-

struction, 151, 153; government grants in aid, 170; government operation, 152; Pearson partnership, 34, 152; loss and damage, 17-18.  
 Tehuantepec Transit company, 150.  
 Thompson, D. E., promoter, 154.

## U

United Morelos, Irolo, and Acapulco railways, 140.  
 United railways of Yucatan, control, 5-6; concessions, 155; construction, 155-156; government operation, 28, 57; finances, 68; present condition, 17.  
 Telfener, Count, promoter, 9-10.  
 Texas-Mexican railway, construction, 121; acquired by Mexican National railroad, 133.  
 Texas, Topolobampo, and Pacific railroad, project, 8.  
 Topography, 8-9, 88-89.

## V

Vera Cruz and Isthmus railroad, control, 4-5; organization, 154; acquired by National railways, 154; construction of branches, 7; government operation, 28-29, 34; interrupted and suspended operation, 42.  
 Vera Cruz and Pacific railroad, concession, 153; construction, 153; acquired by nation, 153-154; operated by Vera Cruz and Isthmus, 154; acquired by National railways, 154. See also Vera Cruz and Isthmus.  
 Vera Cruz (Mexico) railway, concession, 153; construction, 153; government operation, 34; present condition, 17.  
 Vera Cruz Terminal company, government operation, 34; finances, 66.

## W

Wellington, A. M., surveyor of Inter-oceanic, 140.  
 Wilson, H. M., on Mexican topography, 88-88.



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